

The Australian **COMMODORE & AMIGA** *Review*



Hard Drives

Understanding the Jargon

MiniOffice

Integrated Office

Deluxe Paint Masterpiece

Step by Step, How to Create Your Own

Removable Mass Storage

Floptical or Syquest?

CanDo 2.0

Build Your Applications

User Report : Amiga Conference Guide
Letters • Desktop Publishing • Latest Entertainment



Amiga 3000

No Problem

Specifications

Microprocessor

Motorola 68030 at 25Mhz

Co-Processor

Numeric Co-Processor 68882 at 25Mhz
Multi-chip Co-Processor system for DMA
Video, Graphics and Sound.

Memory

1Mb Chip RAM, expandable to 2Mb on board
1Mb Fast RAM, expandable to 16Mb on board

Internal High Speed SCSI hard drive

100 Mb 19 ms standard

Built-in Display Enhancer

Video Modes

640 x 256 16 colours
640 x 512 16 colours
320 x 256 4096 colours
320 x 512 4096 colours
1280 x 256 4 colours
1280 x 512 4 colours
1008 x 800 4 shades of grey*
1008 x 1024 4 shades of grey*
* requires high resolution monitor

Expansion Slots

4 Zorro III expansion slots
2 PC/AT expansion slots
1 video expansion slot
1 CPU memory expansion slot

Interface Connectors

23 pin Amiga video (15 KHz)
15 pin VGA style video (31.5 KHz)
Left and right stereo audio
External disk drive, Serial, Parallel, Stereo
Audio, Keyboard,
Joystick/Mouse/Lightpen connectors and SCSI port

Data Paths

32 bit CPU access to chip RAM
32 bit Fast RAM, with custom controller supporting
static column mode DRAMs and allowing
CPU burst access
32 bit DMA-based on board SCSI controller

Internal Real Time Clock with battery back-up



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January 1993

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The Australian COMMODORE & AMIGA Review

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Happy New Year!

Amiga Peripherals at Perfect Prices

SPECIAL Diskettes

3.5" DSDD cheap \$5.89

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Amiga A600 = HD=40Meg	\$829

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CDTV Infra Ray Mouse	\$120
G Force Accelerator	CALL
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Roctec Mouse	\$29.95

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CD Rom A500/2000 new model : CALL

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Cost \$1.50 - \$2 per disk
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LC15	\$579
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LC24 200 clr	\$5629

Epson	
LX 400	\$249
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LX 100 NEW	\$399

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KXP2123	
24 pin	\$575

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Editorial

Looking at our front cover this month, I felt a strange rush of fuzzy feelings as I glanced at the volume number. Yes folks, we've now entered our tenth year of publication and in March we celebrate our official tenth anniversary.



We're already planning a special March issue, filled with juicy information on Commodore's history, flash backs to some of the crazy predictions we made and a look at Commodore today - where they're headed and what sort of support we can look forward to in the future.

So, if you go back as many years as some of our staff here at ACAR, myself included, and you have a story relating to the history of Commodore you would like to share with everyone, please write to us soon.

For example, did you know Commodore once had a computer whose case was designed by Porsche? It was the Commodore 700, a derivative of the early 4000 series. Fascinating stuff eh? But seriously, Commodore's history is one of the most interesting around.

They have long been at the forefront of desktop computer technology. Despite their marketing emphasis on the home market and the fact that the software industry has seen fit to support only the home and niche markets in which the Amiga does so well, the machine performs as well or better than hardware costing many times the price.

Well, enough reminiscing! In this issue we look at hard drives, CanDo 2.0, MiniOffice and creating your own *Deluxe Paint* masterpieces - not to mention all our regular columns, plus desktop publishing. This month, George Kimpton checks out *HotLinks 1.1*. In the future, the Desktop Publishing column will be written by myself.

Late News

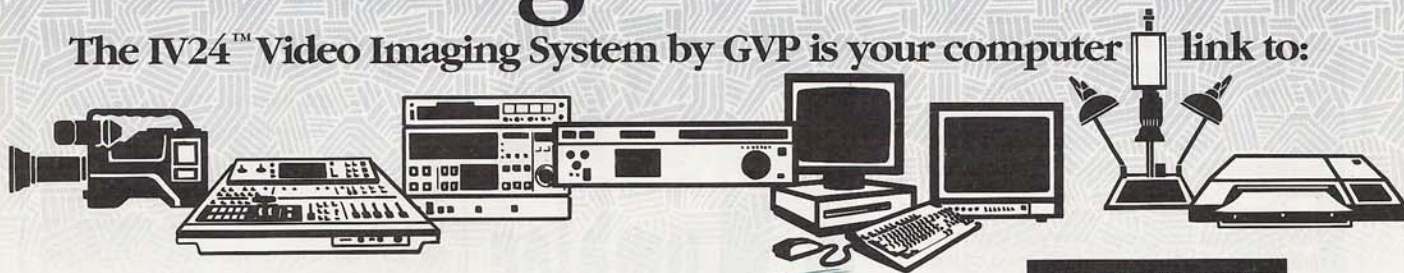
New Wordprocessors : Just prior to press we managed to get a hands on look at *Final Copy 2.0*, and *Wordworth 2.0*. Both have many new features. *Final Copy* now includes drawing tools and *Wordworth* comes with a mass of fonts and now handles multiple columns. Watch for a comparison in February.

Real 3D 2.0 : Colour Computer Systems just completed a tour of Australia demonstrating the latest version of *Real 3D* along with the new *Frame Machine*. Both look like pretty interesting products - watch for reviews around March.

Andrew Farrell

Missing Link Found

The IV24™ Video Imaging System by GVP is your computer link to:



You have **only** 1 video slot in your Amiga®. **Only** GVP's IV24 makes sure you take maximum advantage of it. No other multi-function video enhancement



▲ Desktop Darkroom

peripheral links your Amiga to more video equipment, multi-media and other devices, boards and programs than GVP's IV24.

Check out these features:

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- ★ 1.5MB, 24-bit, 16.8 Million Color Frame Buffer
- ★ Realtime Framegrabber/Digitizer
- ★ Flicker-Eliminator (de-interlaced video)
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- ★ Picture-In-Picture (PIP) Video-Over-Application or Application-Over-Video Display
- ★ Digital and Analog Key Inputs.

GVP's bundled software is your link to creative imaging. There's absolutely no limit to your creativity, imaging and fun with



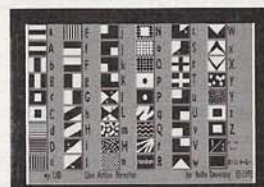
the full range of software included with your IV24: **Desktop Darkroom™** brings the photo shop to your desktop with filters,

special effects and color separations capability from images captured by the IV24 and video camera, VCR, other video sources. Explore photography's future, today.

MyLAD™ (My Live Action Director) makes everyone a professional videographer with a 3 signal, 2-input switcher and 50 spectacular transitions.

New, enhanced Macropaint-IV24™ lets the artist in you truly express itself with 16.8 million color paint and image digitizing that shows your work in 24 bits — as you use it.

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▼ MacroPaint IV24 ▲ MyLAD



What's your link to GVP's IV24? With the IV24, all the bundled software and your choice of VIUs, your links are endless.

"I found a link to creating great special effects on Nickelodeon's Nick Arcade..."

Karim Mitell Co., Producer, Nickelodeon Arcade, Bethesda/Mitell Productions, Orlando, FL

"I created 24-bit files from graphics to keep their colors intact. These images were captured by the Quantel Paintbox® from the IV24's analog RGB output. The Paintbox generated background then captured by the IV24 via RGB. The most telling testament to the board's quality is that the IV24 received the best response of all the Amiga-related devices I have shown broadcast engineers."



Graphic Courtesy of Nickelodeon

"I found a link to corporate presentations"

Bill Evans, Corporate Communications Technician, Fabmet Corp., Garden Grove, CA

"I use the IV24 mainly as a 24 bit display device in an A3000. I scan in 24 bit images with an Epson® 24 bit scanner, and then network them to a Video Toaster®. The finished product is displayed in our training room on two 27" Mitsubishi® monitors I will also use the IV24 with a Polaroid® freeze frame unit."

"I found a link to great animations..."

Tom Hutchison, Producer, Wild Orchid Graphics, City Rock, OR

"IV24 is what I've been waiting for. I use it with Imagine® software to produce animations for a local cable company. I really like being able to use one monitor and have a de-interlaced output that integrates into the system better than any other frame buffers I looked at."

"I found a link to a money-making opportunity..."

PAUL GILMAN, Entrepreneur (Scientist/Retired, Kodak), Personal Sports Cards, Penfield, NY

"I bought GVP's IV24 so my grandson and I can make and sell personalized baseball cards with Deluxe Paint®. The IV24 is the only product on the market with the RGB IN and OUT I needed to connect my video camera to a Kodak® thermal printer. It suits my needs perfectly. I've used many IV24 features — including Picture-In-Picture — and they're all superb."



IV24'S VIU:

Your link to more power and productivity from your current hardware

The heart of every IV24 is the Video Interface Unit (VIU) with fully adjustable, software controlled, multiple video

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VIU-S (RGB Splitter):

Composite, S-Video (Y/C) and RGB input sources; sync generation; signal line stabilization; both Composite and S-Video for video tape recording or standard monitor viewing; input for external digital or analog Composite key source for Chroma/Luminance keying.

VIU-CT (Component Transcoder):

All the VIU-S features, plus RGB to Y/R-Y/B-Y and Y/R-Y/B-Y to RGB input and output conversions for Betacam/MII; VGA-style monitor passthrough.

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UPDATE COLUMN

My apologies! I must apologise to all those customers who have not been able to get immediate delivery of Amos Professional and also to those who sent in for the Amos Pro Upgrade. The demand has just been overwhelming and we simply were unable to get enough in in time. However, by the time you read this new stock will have arrived and you should be able to get your products right away.

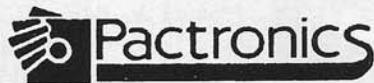
Talking about Upgrades, many of you have already taken advantage of our great offer of Wordworth Upgrades but I know that there are those amongst you who have been looking around for word processors for the Amiga and have seen that there are others that are quite a bit cheaper. It boils down to the old adage - "you get what you pay for." There is no doubt that Wordworth is the definitive word processor worldwide for the Amiga and although you may save money by buying a cheaper product, nothing is surer that in the near future you will regret not having the brilliant features of Wordworth. Remember, if you buy Wordworth you are buying a word processor for a lifetime.

One of the problems we have found is that many retailers do not want to stock games unless they are absolutely the latest release. This is quite ridiculous, in my opinion, because there are so many BETTER games that have been released over the last couple of years than those currently being offered and I know that we have many such games at very competitive prices. May I suggest that you ring us and ask for a list of our Amiga products so that you can at last order these games from your local retailer. Our phone numbers are Sydney 748 4700, and out of Sydney 008 227 465.

Another interesting thing we found last year was a number of people who purchased 512K Expansion Cards and then found that for various purposes they really needed more memory and had in fact wasted quite large sums of money. We would recommend to you the 2 Meg Expansion Boards with 512K on board so that you can expand further if you so desire (the difference in price is quite small), or even a 2 Meg Expansion with 2 Meg on board. It comes back to what I was saying about Wordworth - money spent on products for your computer should be an investment for the long term. By the way, we also have Alfadata 1 Meg Expansion Boards for the A600.

May I take this opportunity to wish you and yours a very happy, and let's hope and pray a much better financially, New Year.

Pactronics Pty Ltd, 98 Carnarvon St, Silverwater, NSW (02) 748 4700



Ram Rumbles

Commodore in the Media

In A Book

"On page 41 of *Night Things* by Michael Talbot are the following words '... his Commodore computer sitting on a desk across from the bed'.

"I thought this worth mentioning for your Commodore in the Media section."

Ed: Thank you to D. Healey for that one ... we hope you've read your Amiga manuals as thoroughly.

In A Magazine

Another sighting appeared in a prestigious magazine called *American Cinematographer* which is read by professional film and television people worldwide. As you can see, (the article is reproduced in full within the full-stop at the end of this line), it is about the Newtek Video Toaster, with what looks like a dedicated A2000.

"The article is very interesting as it describes the process of rendering images for use in TV programs, shows that don't have millions of dollars to spend on special effects.

"As a recent Amiga addict, I found the article very encouraging, as I am slowly building up my system to be used in a smaller but similar way for my video production business. I hope this is of interest to you, and your excellent work in ACAR, keep the good work up."

Stephen Maggs, Amiga Addict.

Ed: Thanks Steve, keep building, dude.

On The TV

Another reader reports three counts of Amigas in the media.

"1. Did you ever watch that old BBC show *Red Dwarf* about five years ago? Well, if you had you probably would have noticed their main computer was a C64. A new series has just popped up on TV, shown on the ABC, 10.00 pm on Tuesdays, and if you look very, very hard you will see that one of the computer keyboards on their control panel is that of an A2000! Wow, exciting or what?

"2. Have a look at the Arnotts Shapes commercial - you're bound to see an A500 in the kids bedroom.

"3. Look at the article I've sent you! (Once again, see the space between these words for the complete text in microatomic format.) Found in the *Who* magazine while waiting at the dentist (interview of Clive Robertson with his Amiga)."

Justin Rumpff.

Ed: Yes indeed, Clive is a regular Amiga user and a good customer of an Amiga store in Sydney.

In The Medical Press

And a reader who is hoping things are finally looking up.

"I've finally spotted an Amiga in the media! You will, no doubt, be pleased to see that our favourite computer has made it into the medical press. I enclose a cutting from *Australian Doctor Weekly* (from an article about RSI, which, let's face it, is irrelevant to our purposes and should in all probability not be reported in case some genius mysteriously deduces that using Amigas causes RSI) which shows someone using an Amiga 1000. (The article is not reproduced anywhere, so put your magnification glass away please.)

"Is this weird enough to qualify for a free subscription (or, in my case, an extension to my current subscription) to ACAR? Keep up the good work." - David Boyce, Croydon.

Ed: Weird? Nah, normality city. Sightings at the zoo may qualify, but anything in the *Doctor Weekly*, well ...

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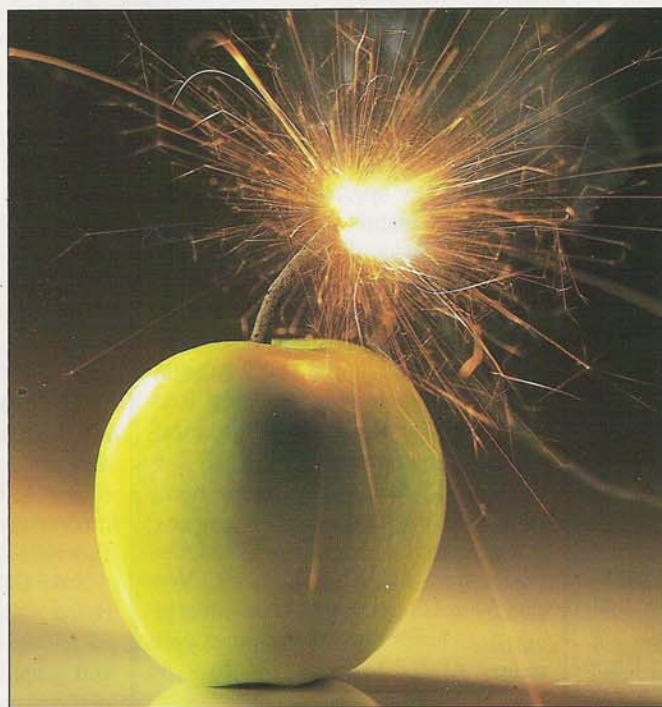
A revolutionary new plug & play system, for the integration of laserdisk, still video, MIDI, or CDTV sound in your Scala presentation. Extra EX'es, such as 24 bit graphic support and VCR control are also available.

Scala Wipes

More than 80 amazing, smooth and professional transitions provide possibilities previously unseen on the Amiga.

Scala Sound

Enhance your presentations with voice-over, music and special sound effects! Scala offers total control of recording and play-back.



Scala Shuffler

Instant viewing of your whole presentation! You can see up to 112 pages at one time. Simply shuffle them around with the mouse!

Scala Snapload

A series of advanced techniques make Scala load and display pictures and animations faster than any other package!

Scala Buttons

Creating interactive hotspots has never been so easy! Scala MM200 even includes full support of variables.

Scala LINGUA

The multimedia language Lingua with its close link to ARexx puts the advanced user in total control!

AnimLab

With this bonus program you can make your animations play up to four times faster!

The press writes:

"The word multimedia has been battered and misused... Scala on the other hand, know exactly what multimedia is and what to do with it!" *Amiga User International (UK)*

"...the best program in show business." *Amiga Format (UK)*

"Scala MM200 is the kind of software that many serious users simply can't afford to be without." *Amiga Computing (UK)*

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SCALA
Why make it harder?

Notepad

Home Computer Show Recession Buster

Australia's first Home Computer Show staged at Melbourne's Royal Exhibition Building for three days from Friday 13th to Sunday 15th November has been hailed as an "outstanding success". Mr Graeme Selby, managing director of show organisers Australian Exhibition Services (AES), expressed elation at both the visitor attendance and exhibitors' sales results. GVP reported strong sales of Amiga products, especially *Scala*, from the Maxwell's stand, which was shared amongst several big distributors.

"The remarkable attendance of more than 35,000 visitors has completely validated the company's decision to stage an event providing public access to the latest in computer technology, games and entertainment for all the family, with no age restriction," Mr Selby said.

AES Exhibition Manager Mr Chris Murray described exhibitor sales turnover as "equal to a bonus month of Christmas trading in just three days"! Visitors to The Home Computer Show were able to shop, compare and bargain with over 90 retailers all under the one roof.

AES will build next year's Home Computer Show on the base established, with plans for even more exhibitors, more free games areas and even more entertainment. Exhibitors were clearly delighted with the show and saw no conflict between The Home Computer Show, as a retail family event, and the PC Show, the business computer exhibition that is also organised by Australian Exhibition Services.

New CD Format?

Sony has demonstrated the use of a blue-coloured laser with compact disks. Using the narrower

blue beam as opposed to the current red beams has allowed Sony to up the maximum music recording time of a CD from 74 minutes to over 3 and 1/2 hours.

SAS/C 6.0

It's a major upgrade folks - version 6.0 of SAS Institute's C compiler development system for AmigaDOS. Developed to provide users with a responsive, controllable C compiler designed for the Amiga, the System presents options for customizing and increasing the speed of programming activities. Recommended for novices as well as experienced programmers, the SAS/C Development System addresses the needs of all who program in the C language.

Suggested retail price is US\$395. Upgrades from SAS/C or Lattice C Version 5 are US \$109. For more information or to order Version 6, contact your nearest Amiga dealer or SAS Institute at 0011-1-919-677-8000.

Real 3D V2.0

Promised to be quantum leaps ahead of *Imagine*, *Lightwave*, *Caligari*, *3D Professional* and others, *Real 3D 2.0* is now shipping. Pre-release showings of the new version at SIGGRAPH (USA) and in Europe have compared it to *Alias*

and *Wavefront* on Silicon Graphics system. A PC version will also be released in March 1993.

Version 2.0 features a brand new user interface that takes full advantage of the Amiga's multitasking capabilities, i.e. you can render while creating objects. It's got motion blur, depth of field, AutoCAD import/export, tree and landscape fractal generators, fogs, dust effects, scripting, nine types of mapping functions, soft shadows, etc. Animation functions that are unbelievable - keyframing, morphing, particle, character, inverse kinematic, magnetism, procedural and allows all transformations and free form deformation to be animated.

CD-I - CDTV's Competition

The chairman of Philips Electronics NV's consumer electronics business said that sales of compact disc interactive (CDI) are rising, despite the fact Commodore report both formats are moving slowly.

Like CDTV, CD-I uses compact disc-based software to allow manipulation of television images with text, sound and graphics. Typical applications include learning how to play a musical instrument without having to buy one, and a realistic golf game.

It was launched ahead of similar systems by Sony Corp and Matsushita Electric Industrial Co but there are competitive offerings from Commodore International and one planned by retailer Tandy Corp. Panasonic, Kyocera, Sharp, Sanyo and Goldstar are expected to introduce players in Japan. Samsung and Daewoo have also announced plans. In Europe, the French government has signed an agreement to open a CD-I facility.

Consumer players are to be introduced in the next few weeks in France, Belgium, Netherlands, Italy and Spain. It's already a hit in Portugal. In the UK, demand is causing Philips to increase outlets from 500 to 900 stores. □



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- ▶ Provides unsurpassed multi-functionality through superior design integration giving ALL GVP accelerator users:
 - On-board SCSI-II compatible DMA Hard Drive Controller
 - Up to 16MB of high speed 32 Bit-Wide Memory expansion (up to 64MB with 16MB SIMMS available late 1992)
 - Ability to transform your accelerator into the ultimate hardcard with GVP's new improved snap on Hard Disk mount kit
 - On-board future expansion possibilities with the GVP exclusive 32-Bit expansion bus (including GVP's EGS 110/24). This feature alone literally obsoletes ALL other accelerator products.
- ▶ Backs ALL GVP accelerators with a full 2-year warranty and upgrade program.

Choose GVP's newest, fastest and feature filled accelerator... the A2000 G-FORCE040

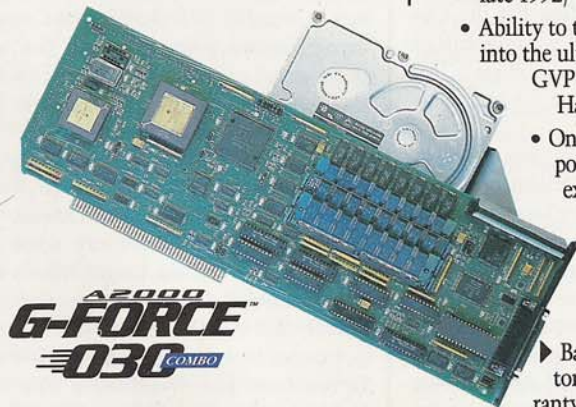
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Letters TO THE EDITOR

Many of you have noted how we've missed letters out a few times lately. Well, we're turning over a whole new tree in 1993 and we promise to keep two pages set aside every month to answer the most interesting.

PD Abuse and C64 Support

I was interested to read the article on accredited PD libraries. There is another aspect of PD distribution that I feel is also applicable. That is the trend towards public domain disks being distributed by full-on retail stores and mail order retail companies whose main function is selling commercial hardware and software.

In the majority of these cases, the PD disks are used as a "come-on" to gain customers who may become potential purchasers of more expensive commercial goods.

I have written a lot of programs that I have donated to the public domain. The idea that they may be presented as "Supermarket Specials" and distributed through retail shops or retail mail order companies is offensive to me and is expressly against my wishes. It has always been my intention that these programs are to be distributed through dedicated PD libraries, Bulletin Boards or User Groups.

I am sure that I speak for most programmers in regard to this. The area of PD software is a totally new concept that has grown out of the personal computer era. As such no ground rules have been laid. It is very important that the integrity of the programmers should be protected and the only way that this can be done is through the existence of bona fide dedicated PD libraries.

Most PD libraries put a lot of effort into the service they give to the general public. A lot of people do not realise just how much time and effort is put into copying, compiling, collecting and checking

new programs, not to mention back up service such as free advice.

The many people who write PD programs get no remuneration and little recognition for their efforts. It is a shame to see this trend towards retail distribution of their work, which I feel is in most cases entirely against their wishes.

To validate my point on this subject, I was recently told by a retailer who also carries a lot of PD disks "Sorry, I don't know anything about these programs, we only stock them because they are cheap and they get a lot of people into the shop".

Some of the programs on display were shareware (the majority were standard PD) and it's obvious that the thousands of programmers involved weren't contacted for permission to distribute their programs in this manner. There's no interest in or knowledge of the programs. As far as the retailer is concerned they're like a packet of Lifesavers on a Supermarket shelf!

I am writing this letter as a programmer, but I should mention that I also own and run the Brunswick Publications PD library. This is a dedicated PD library catering for the Commodore 64 (we also have an Amiga PD section but the C64 keeps us very busy and we concentrate mainly on this). We also produce a free bi-monthly disk magazine for our many members.

Much of our PD comes from overseas. We also get a lot of excellent programs that have been donated by local programmers. The C64 scene is in fact very active. When people upgrade they generally sell their 64 or pass it on to a new user. Consequently there is a constant flow of first time computer users looking for support for their C64s and the user base has not really diminished much over the years. There are tens of thousands of C64s in Australia and a large percentage of these are still being used. Companies that

are supporting the 64 are finding that there is still a very large demand.

Peter Boothman
Woollahra

Ed: *I couldn't agree more. Dedicated PD libraries perform an invaluable service which even some PD programmers don't seem to understand the benefit of. However, seeing PD or Shareware products abused in the way you've described is unethical and probably illegal given the distribution restrictions many authors now impose on their software.*

Amiga and MS-DOS

Firstly let me say that I really enjoy reading ACAR every month and look forward to the reviews and news from local and interstate companies. I'm writing for two reasons.

A friend of mine has gone overseas for a two month holiday and has left me to watch/use his Commodore 286 PC. From what I've used of it, it's not a bad machine. Now, he claims that he can use Amiga software and hardware simply for the fact that it's a Commodore. Could you print this so I can show him?

I've told him that, with an Amiga, he can use an emulator module that fits onto the Amiga, thus giving PC compatibility. Secondly, I'm in the process of upgrading my C64, and am considering an Amiga 600 HD. I'm interested mainly in spreadsheets, word processing and the occasional adventure game. Would it be worthwhile staying with Amiga (and utilising the IBM emulators) or simply staying with Amiga.

P. Andrews

Ed: *You can tell your friend there's no way he'll get his MS-DOS based Commodore PC to run Amiga software! The Amiga's custom chips and sophisticated operating system make emulation near impossible for lesser machines.*

If you're planning on upgrading, the A600 would be a good way to go. I recommend you look at extra RAM over the standard machine. There are some top wordprocessors on the Amiga. Wordworth 2.0, which has just been launched, can LOAD and SAVE various PC format wordprocessor files including MS-Word. Spreadsheets like Professional Calc and Maxiplan can also LOAD and SAVE Lotus format files. There's no reason why you couldn't bring work home and take it back after working with it on your Amiga.

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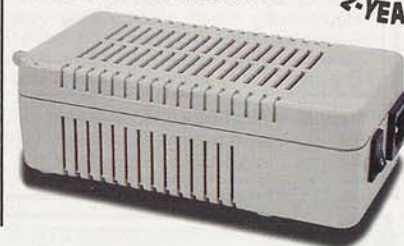
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Home Brewer Disk

Could you please tell me how I can
obtain a copy of Beau Rues Home Brew-
ers Disk. By the way congratulations to
everyone at ACAR for an informative,
enjoyable and readable magazine.

*T. Mallam, Wesley College
Sydney University*

Ed: Any good PD library should be
able to help. Try Megadisc on (02) 959
3692.

Praise For Us and For Amitech!

I felt that I just had to write you a letter
to say two things. The first is how much I
appreciate and look forward to reading
ACAR every month. After nearly three
years of happy Amiga ownership I am
still learning about the mighty beast every
day, especially after recently upgrading
to an A2000HD. The advice and assist-
ance provided by your magazine and its
many contributors has been invaluable to
myself and all of my Amiga owning
friends ... THANKS!

The second point I wanted to make
relates to my recent upgrade to the
A2000HD. I purchased my new Amiga,
complete with Workbench 2 from a guy
by the name of Rob Self from a company
called Amitech over at Cronulla. I simply
cannot say enough good things about Rob
to really do him justice. In these days of
buyer beware with so many rip off artists
around, Rob's attitude came as a pleasant
surprise. After two and a half years of
A500 ownership and absolutely no expe-

rience with the intricacies of a hard drive,
at first I thought I had bitten off more than
I could chew but Rob has been on hand
to help me over every hurdle faced so far
with both the hard drive and the new
Workbench.

I genuinely feel that Rob's attitude and
dedication to customer satisfaction should
not go unrecognised in today's "Grab the
money and run" marketplace.

*K. McNaughton
Liverpool*

Ed: More letters like this are most
welcome. Well done us (pat, pat) and well
done Rob ... now let's not slack off!

Amiga Not Up To Scratch

The Amiga is a machine that I have
come to like much due to its versatility.
However, practical considerations have
made me decide to look elsewhere for a
replacement.

Consideration one: for studies I need a
database which is only available in the
IBM system. After spending a lot of
money on an IBM emulator it still does
not work with my hard drive, necessitat-
ing a disconnecting of the hard drive and
a change of the memory board before the
system can be run.

Consideration two: I need a data log-
ger for future R&D and seem to be unable
to get responses on this from Amiga firms.
I have tried to correspond with several
companies overseas about the various
problems and projects but either get no
response or have had advice that got me
nowhere.

Consideration three: lack of time has

caused me to leave the local computer
club and hoped that your magazine would
to some extent make up for or even better
that. However, of the several pieces of
mail sent to you none was ever answered
in either the magazine or in the mail. Nei-
ther were any articles produced that ad-
dressed my problems. It is hard to believe
that all those letters went astray and in
some sense I feel jealous of the people
who got responses in your magazine.

Consideration four: having at least half
a dozen IBM specialists that I rub shoul-
ders with and that can answer my queries
if my machine was IBM compatible I
think you will understand if I look in that
direction for the future.

Because of these reasons it is felt at the
moment that there is no longer a need for
ACAR in my house, so no subscription
renewal.

Yours in disappointment,

*H. Kloppenburg
Ferdale WA*

Ed: One minute's silence please eve-
ryone ... thank you. Ah, well, there goes
another one. I guess the thousands of new
owners who bought Amigas over the last
two months will make up for this great
loss in a small way.

Seriously though, you only leave me
wondering which emulator you bought.
As for our mail response, unfortunately
we cannot possibly hope to answer even
a fraction of the hundreds of letters we
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User Report

CanDo V2.0

In all its glorious new bookshelf wrap, surely version 2.0 of CanDo has lots more to offer? Greg Abernethy, our regular CanDo columnist and Amiga developer, examines what's new and what's not.

I had been waiting rather impatiently for CanDo V2.0 to arrive, and looking forward to seeing what enhancements and new commands had been added, as had been the case with the CanDo upgrades in the past. Finally it appeared, and I rushed home to install it and begin tinkering with the new commands.

CanDo V2.0 comes packed in a hard-bound slip-on cover and the manual is contained in a grey ring binder. There is a wrap-around sleeve on the box with some information on how CanDo can be used and some pretty pictures on the back cover.

Enough of the packaging, time to open the manual and see what's new. Maybe support for double-buffered screens, or perhaps a background music player for the games I've designed, or even a range of screen wipes when moving from card to card.

Installation

I opened the manual and found the three CanDo Disks. Firing up the A500, I inserted the CanDo Program disk and double clicked on the Hard Disk install program. I had a choice of novice, intermediate or advanced user installation. Being a seasoned CanDoer I opted for the advanced user option. With the advanced option the Installer asked me which files to install and where I wanted them.

I decided to overwrite CanDo V1.6 on my hard drive, and set about the installation. Not want-

ing any of the Drawers, such as BrushAnims and Images, or the examples, I skipped this part of the installation. Everything was going well until 85% of the installation was complete. I received an error message telling me that the Installer was unable to find a directory on my Hard Drive called FOREACH and promptly aborted the installation procedure.

Undaunted, I attempted the advanced installation again, wondering whether perhaps I really was an advanced user. I selected my options carefully, but to no avail, as the same message appeared at the same point in the installation. My dinner was being dished up, and I still hadn't had a chance to see the new version in action.

Throwing caution, and an extra megabyte of space on my hard drive, to the wind, I selected the novice installation and settled back to wait. This time CanDo installed quite happily, so at last I was ready. After bolting down my dinner in record time, I settled down in front of the Amiga to peruse the new

A CanDo designed database

The screenshot shows a window titled 'UntheBall (C:\1992\Imaginetics) : RECORD # 1'. It contains a form with the following fields and values:

File Name	User		
Business	Prime Artifax Computer Software		
Address	122A Pittwater Rd	Postall	P.O. Box 288
State	Gladwinville	State	Gladwinville
Post Code	2111	Company	Prime
Profile	Mult	Contact	
Phone	879	Direct	Position
First Contact		Married	<input type="checkbox"/>
Last Contact		Children	
Next Contact		Baby	
<input type="button" value="Add"/>			

features in CanDo V2.0.

Documentation

Flicking through the 428 page manual, I found the usual introductory information on system requirements and installation, an explanation of what CanDo can do, as well as two tutorials for beginners. The tutorials are very well presented and cover in depth the main features such as buttons, fields, and documents.

Chapter 3 gives information on using the Main Panel and Cards. Chapter 4 deals with CanDo's objects, including several new objects. SuperDuper is a utility to eliminate the tedium of setting up large numbers of buttons or fields on the screen. BookMark enables you to place a bookmark when working with a script, thus letting you return quickly to that script if necessary.

ObjectLayer seems to be a utility for setting priorities for objects. In this way you can set what is displayed on the screen. ConfigCanDo allows you to reconfigure CanDo's configuration while running CanDo. For instance, you can toggle ExpertMode on and off from within CanDo, whereas previously if you wanted to use ExpertMode you had to quit CanDo and change the ToolTypes setting in CanDo's icon.

Error allows you to intercept any errors that would normally cause CanDo to crash. This gives you a catch-all error checker, that can handle any error encountered while running a CanDo application. The last new object is DosNotify, which seems to have limited use until later versions of AmigaDOS become available.

Chapter 5 contains detailed information on the Script Editor and Editor Tools. There are two new Editor Tools. The BookMark Editor Tool allows you to mark a script, and have it added to the list of BookMarks. In this way you can quickly return to that script. Clicking on the BugBasher Editor Tool will cause CanDo to search your script for any syntax errors. It takes longer to scan

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a script, but performs a thorough check of your script, saving errors when testing your application.

New Commands?

Now to the interesting section. Chapter 6 contains all CanDo's commands. I searched expectantly through the commands for new commands or enhancements to existing commands. The commands have been set out well, with explanations and examples to show the correct usage for the command. The commands are divided into sections in a similar fashion to those of the help files within CanDo. To my dismay, as I searched through the commands I realised that no new commands had been added in this version. You can imagine my disappointment.

Chapter 7 contains information on the Utilities available. These include AnimToBAnim, DeckBrowser, The SerialManager and The MultiBinder. The AnimManager has been enhanced and has several new features available. I have not used the AnimManager as yet, so I can't comment on how good the enhancements are.

In Action

Feeling slightly let down, I decided to load CanDo and work on a couple of projects. The Main Panel has the same outward appearance as CanDo V1.6. The Tools Menu lists the new Object Tools mentioned above, as well as a LastBookMark option which will take you directly to the last script you bookmarked. I find this useful for jumping quickly to the last script I'm working on, without having to go through the usual click on the object and then click on the script button routine.

In the Script Editor Tool bar two new items have been added. They are the BookMark tool and the BugBasher Tool.

Click on the BookMark Tool and the script you are working with is added to the BookMark list and may be selected at any time. CanDo will immediately jump to the selected script.

I tested the BugBasher Tool on a 30

line script with some intentional syntax errors and found it picked up all the errors I had placed in the script. This option would be very handy for debugging long scripts for errors before testing them. There was a reasonable time lag while the script was scanned, but this is understandable when debugging a script.

I tested SuperDuper by using it to create five rows of fields with six columns in each row. It performed this operation so fast I didn't realise it was finished. All that is required after using SuperDuper is to add scripts to each object.

I bound two projects I had been developing using the new MultiBinder and tested them thoroughly on a WB2.0 machine and two WB1.3 machines and could find no problems with either project.

Conclusion

After the disappointment of the lack of any new commands it was difficult for me to become over-enthusied with CanDo V2.0. The enhancements seem to be mainly in the area of making life easier for the programmer rather than providing more powerful development tools. I have 'come to grips' with CanDo's programming environment and would have been happier if Innovatronics had concentrated on providing more commands than making it a little easier to use.

For new users CanDo V2.0 is an excellent package as it is a very stable and intuitive programming environment, with an in-depth manual and lots of help files and examples. New users can hop straight in and begin creating useful applications within a short period of time. I would still recommend it to users of earlier versions of CanDo as several bugs have been fixed and the programming environment is very user friendly.

CanDo V2.0 is available from DeskTop Utilities and I would recommend registering with DeskTop Utilities as a CanDo user. Contact Frank Keighley at DeskTop Utilities for more details on (02) 239 6658. □

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MiniOffice

An Integrated Home Office

Although the Amiga's multitasking environment has removed the necessity for integrated software, there are still benefits to be had in using a suite of software like MiniOffice. George Kimpton checked it out.

There will always be computer enthusiasts who, when they can afford it, will buy or as a last resort beg or borrow a wide variety of programs that do all sorts of things. They love flitting between these programs and think nothing of complex manipulations to transfer data from one program to another to achieve that final magnificent manuscript.

There will also be those who like to keep things simple and spend as little time as is humanly possible with their computer, doing only that minimum demanded by sheer necessity.

With the latter poor souls in mind EuroPress have brought out *MiniOffice*. It is, in a sense, presumed to be all things to these people who prefer to slip into the computer, quickly gather the required data, print it out and hastily depart out of range of that dreadful keyboard. Don't laugh, there are people like this, my better half is one. If she never had to come face to face with a computer she would be overjoyed to say the least.

MiniOffice is in reality similar to a program called *The Works* that was very popular some time back, pre Workbench 2.0 in fact. The problem is that WB 2.0 has killed *Works* off, making it do all sorts of shocking things, and only WB 1.3 or less will handle it now. One word of warning here, I suspect *MiniOffice* may have a minor bug that does not like all versions of WB 2.0 or maybe it is certain computer configurations. More about this later.

MiniOffice is actually a suite of

programs - Word Processor, Database, Spreadsheet and Graphs. There is also a disk utilities module for all those house keeping activities such as installing *MiniOffice* on the hard disk, formatting disks, copying files etc..

Being modular it is conceivable that modules can be easily upgraded without a complete revamp of the software or further modules could be added later if the need should arise. It also seems that *MiniOffice* is based on the ubiquitous programming system, Amos, so dear to many Amiga followers. This could be good or bad depending on how you look at it.

Each module is self contained, being capable of being worked in its own right but allowing the importing of data between the modules. For instance, one could search the database for a name and address for a letter, then pull in a part of the spreadsheet perhaps as part

of a financial report. Next add the necessary comments with the word processor and print the whole thing out in a matter of minutes.

System Requirements

Nothing is said in the well written manual regarding the system requirements of the program except for the need of 1 Meg of RAM. While it is said to happily run on anything from an Amiga 500 without hard disk to a 3000, additions would be wise on some machines.

For instance *MiniOffice* will run quite happily from floppies but this will result in some disk swapping on a single drive as the modules are on different disks. A second drive would be very useful in this case. Also if you end up having a decent sized database and spreadsheet floating around with the word processor it would be easy to have a log jam in the memory department.

A hard disk would certainly make life easier and I would suggest preferably 2 Meg of RAM to avoid any hassles.

Possible Bug

Nothing is said about Workbench versions but a quick look at the "C" directory suggests the program is a WB 1.3 variety which brings me to the hassles I mentioned earlier. I am currently running WB 2.1 on my 2500 and there was no way I could get the word proc-

MiniMain





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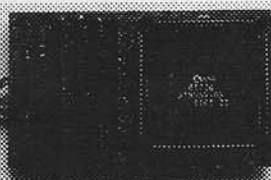
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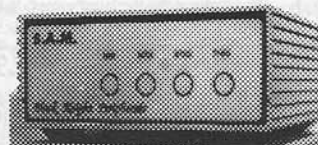
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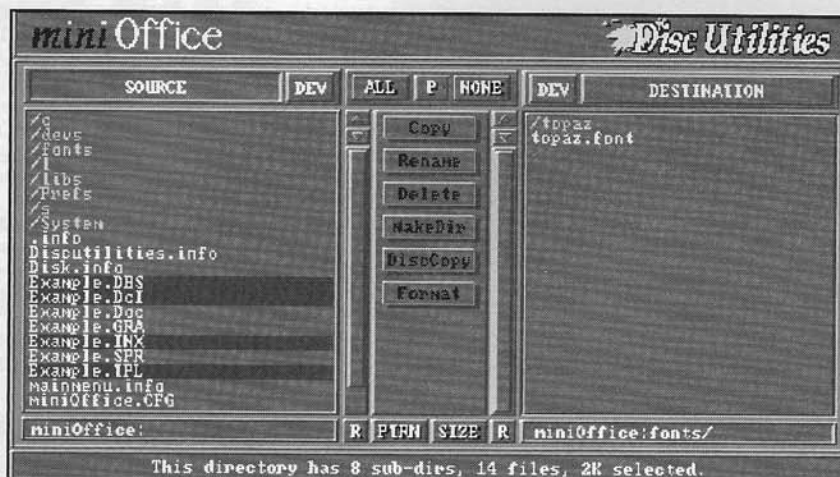
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MiniDisk

essor module to run from the hard disk yet our esteemed editor with exactly the same Workbench on a 2500 got it up and running on his computer.

A friend tried it on both a 500 plus GVP hard drive and another 2500, both running on WB 2.04, without any luck when booting from the hard drive. When cold or warm booting up from the program disk itself, no obvious problems. It also booted up on my Amiga 500 which has WB 1.3. In addition I tested it on a Beta Version of WB 2.0 on an Amiga 1000 where the kickstart was installed by software rather than mounted chip, again no obvious problems.

The strange part is that this particular problem only affects the word processor module, everything else works okay. The program also runs okay in all modules if the program disk is used as

the boot disk. There is no obvious answer to this problem although the "C" directory is definitely a very different version to that of WB 2.04 and higher. There could be conflict here.

Problems aside, *MiniOffice* has the potential to be a very useful and versatile program when everything works properly. For the person who needs a basic word processor, spreadsheet, database and graphics all in one package it will just about do all you are liable to need.

Installation

It can be run from floppies but hard disk installation is easy using the supplied Disk Utilities program except for one thing. When you go to copy the Main Menu and Disk Utilities files, as the manual tells you, they are not to be

seen. What the book neglects to tell you is to change the file filter pattern to "***". After that it is straight sailing even for a novice.

Once *MiniOffice* is installed on your hard disk and you bring up the main menu you must set up the paths to find the modules. This is done through the setup icon and is pretty straight forward. A readme file does advise modification of the S/User-Startup file with an assign to avoid possible hiccups through path reading problems.

Word Processor

Access to all features is from drop down menus. An icon bar and hot keys, common to all modules but graphics, duplicate the most used functions to allow quick movement around the screen. There are all the usual features including cut and paste, find and replace, spelling checker, inserting pictures, dates, time, printer codes, database names, page breaks and many more including headers and footers.

It uses any fonts available in the Workbench Fonts directory and the usual text attributes, style and justification, are provided. Page layout can be controlled by mouse dragging of tags on the top edge ruler. It is possible to set markers for quick movement from one part of a document to another.

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though, importing files does not provide an insert but overrides any text already on display.

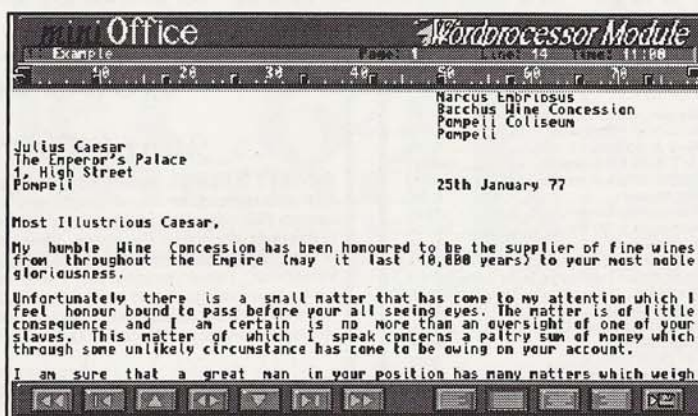
Mail merge is provided. Auto document saving is also available and preset function keys allow you to insert predetermined phrases, words, numbers etc at a key stroke.

Database

Again access to records is by menu, icon bar or hotkeys. The icon bar is similar to the recorder format we are all familiar with and is mostly self explanatory and easy to work. A help window below the icon bar displays helpful messages or brief instructions for the novice.

Record templates allow six types of field information, text, numbers, deci-

mal, date, toggle and comments. It is also possible to define the number and decimal fields with basic formulae (+/-*) so that data can be obtained from other fields, but this must be specified when setting up the template. The templates cannot be changed once they are in use so care must be taken in setting up the database.



MiniWord

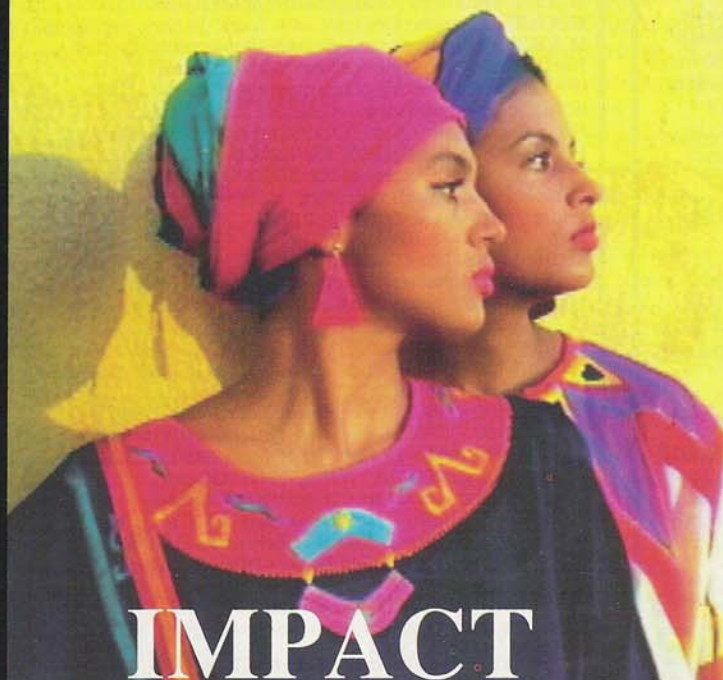
Specific records can be marked for quick access and filters can be set up for searching and sorting records. As to the number of records possible, I cannot find any indication of the maximum allowed although you can specify the number you anticipate using.

Spreadsheet

This module follows the same action access pattern

as the previous modules with menu, icon bar and hotkeys. This is the typical spreadsheet format we have become so familiar with, the reference bar at the top showing details of the current or active cell. It also indicates cell position, the type of data (text, numeric or formula) and the actual entry plus the cell condition.

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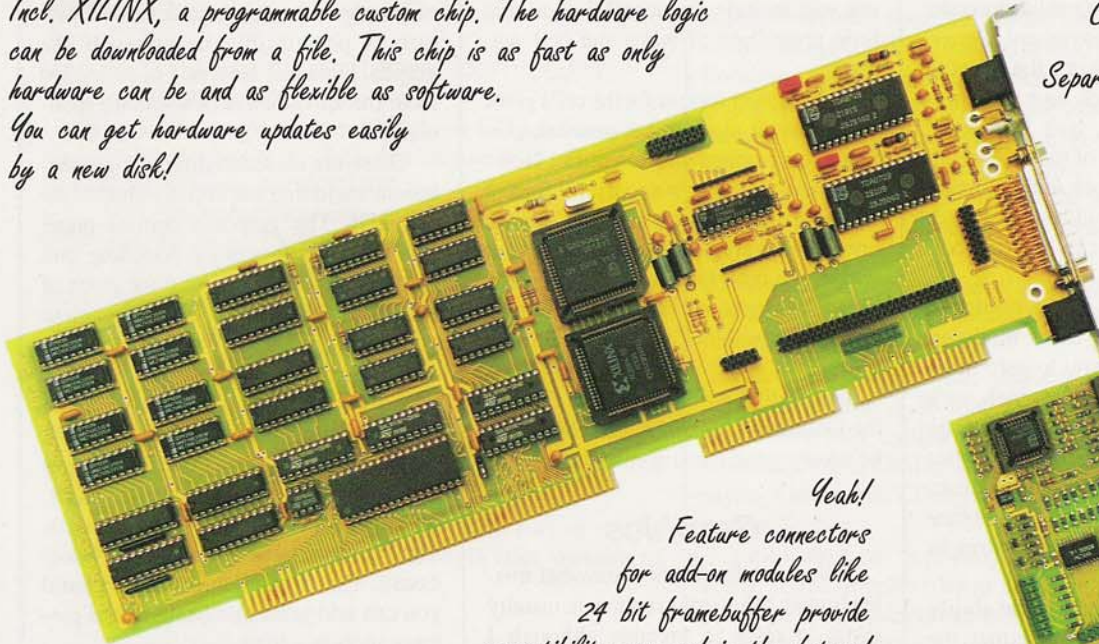
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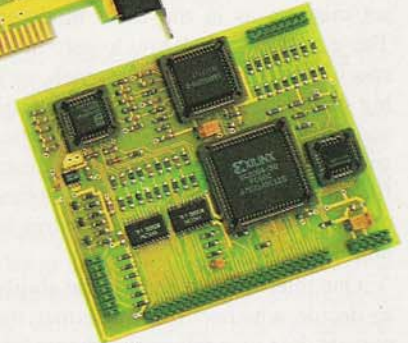
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At the bottom is the familiar recorder button bar for quick movement. Generally it is possible to work the sheet at three levels, cell, block and full sheet allowing you to load, save, cut, copy, delete or insert on any of these levels. It is also possible to lock either single cells or a block to avoid accidental editing of data. Blocks can be row, column or user defined.

One useful feature is the ability to set markers as in the other modules. These markers allow you to zero in on specific cells such as totals which, on a big spreadsheet, could well be off page and difficult to find quickly. Facilities are available to, copy formulae to, clear, fill and lock blocks. Search and replace operates for text, formulae or a straight number.

One interesting feature is the ability to decide whether to insert either the current date in a cell or use the update feature whereby the cell will keep track of the actual date. With update the print-

out will include the actual date at that time regardless of when the cell was setup.

The number format for the cells gives all the usual choices i.e. general, currency, percentage and scientific. However there is one new and useful format whereby the user can actually specify how the characters will be laid out within the cell. Direct access is possible to the graphics module but you must first save the block of data to be displayed.

Generally I would say it has most of the features of *Maxiplan* and appears to be a very good basic spreadsheet.

Graphics

This module title is somewhat misleading as the word graphics is usually taken to refer to pictures although I suppose a graph is really a picture of what a batch of figures are saying. This module is limited to producing a range

of graphs although a background picture is permissible to enhance the graphs. Data can be typed in or loaded from the spreadsheet or database modules.

There are eighteen different presentations including bar and pie charts (2D and 3D). The graphics control panel sets up the data source, handling and graph parameters. It is also the point of access for selecting the type of graph to be used.

Clicking on the Gallery button brings up a display of all the types of graph possible. There are 3 Bar Charts (2D), 4 Line Graphs, 3 Area Graphs, Positive and Negative data only 2D Pie Charts, 4 3D Bar Charts and 2 3D Pie Charts. The Pie Charts can be exploded if necessary. This is quite an assortment and you can add grids and background pictures such as a logo.

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patterns of the item fills can also be set. Scaling of the axes can be automatically or manually adjusted.

Quite impressive. Theoretically you can bring in data from other databases and spreadsheets as well as pictures for the backgrounds but the imports must be in formats to suit to program as no provision is made for conversion.

I must admit I got into some trouble trying to bring in a background when working from my hard disk. At one stage the program kept flipping me back to the workbench in the middle of plotting my graph which was annoying.

Conclusions

According to overseas magazines *MiniOffice* is very popular and I must say on the surface it has a lot going for it. I just wonder how many people who buy it still use it.

It has a basic and simple interface that is easy to use and it has just about

all the facilities most people would need for the application it is aimed at, the small home office. There you are only concerned with a basic budget, a list of names and addresses and the ability to do word processing, and this is adequately provided for within the structure of *MiniOffice*.

It does however have some disturbing features like flipping back to Workbench at the least expected times. The uninitiated at this point may panic not realizing that the old screen has just flipped to the back although occasionally you do lose it completely. There is also the problem I mentioned earlier.

If something goes wrong with the printer there is no means of stopping the printout except by switching off the printer. Also when the printer stuffs up, no message appears on the working screen, it appears on the workbench screen which you can't see so you just sit there looking at the clock pointer waiting. Like a number of these pro-

grams graphics slow the printout down unbelievably so you are not sure whether something has gone wrong or not.

To change screens you don't use the Amiga standard of Left Amiga + N or M, You use Left Amiga + A to toggle the screens. Importing a file does not open another screen it just kills the one you are working on and inserting a graphic in the text of the word processor is very disconcerting. The picture doesn't appear on the page, not even an open box to denote size and place, you find yourself looking at a line of text naming the picture for later inclusion.

This program has a lot of potential and a lot to offer but it leaves me cold at present. I wish I could be more positive about it as we badly need a good program of this type for the Amiga. It will probably work well most of the time and in many situations but it badly needs polishing up in the intuition department and other areas. □

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Understanding Hard Disk Standards

When your SCSIs and IDEs start blurring with the cables and connectors, it's time you read up on just which hard drive standard is which. Daniel Rutter explains.

Not so long ago, Amiga users with hard disks were outnumbered by the membership of the Ted Kennedy School of Driving. Hardly surprising, since the bulk of Amiga users are running A500s and four years ago a simple, slow, 20Mb drive with no possibility for expansion would have set you back \$900 - if you were lucky! A2000 users often went for the 2000HD package, but buyers of the 2000 were very much the minority.

Now the march of technology has pulled the prices down out of the stratosphere and people who want to put their Amiga to work are finding that they CAN justify the price of power - and believe me, the speed and convenience of hard disk operation leaves floppy, even with the help of extra RAM, for dead.

Unfortunately, with the lowering of prices has come a proliferation of models and the usual cavalcade of confusing technobabble. The consumer is expected to be conversant with ST-506, SCSI and IDE, and although I haven't met any ESDI hard disks for the Amiga I wouldn't be surprised to see that either.

All these standards offer different combinations of power, performance and price, and it's easy to get steamrolled into an inappropriate choice by salesmen out for the quick commission.

Which is where this article comes in. I'll deal with each of the four major interfaces in turn, tell you what they'll do, what they won't and what they'll cost. Like many aspects of computing, it gets a lot simpler when everyone stops shouting at once.

Back to Basics

First, though, some basic facts about hard drives. Anyone who's ever slid back

the little metal door on a floppy knows, computer data is stored on the round black plastic disk inside. Anyone who's ever mauled a floppy and got the disk out of its case also knows, this disk is, indeed, floppy. It operates to comparatively wide tolerances, is cheap to make and stores not a great deal of data.

It is possible to store much, much more data on a disk the size of a floppy than this. But you can't do it with the common garden variety floppy because in order to make it work it needs to have the data much more closely packed, which requires a much smaller and more delicate read/write assembly which must sit much closer to the surface of the disk. Floppies aren't flat enough for this to work, they don't revolve evenly enough and one particle of dust - or even smoke - would bring an abrupt end to the proceedings.

The hard disk overcomes this problem by using metal disks, usually several, with corresponding numbers of read/write heads, much smaller and more precise than the lumbering floppy versions. My own Maxtor HD has four disks, eight heads and a formatted capacity of 202Mb, or about 230 floppies.

This extra precision and the construction needed to shock and dust-proof them makes hard disks far more expensive than floppies - 230 good floppies at bulk prices would set you back maybe \$350, while my HD was well over \$1000 retail, and that's without the controller to connect it to the computer.

Hard disks are much faster than floppy. A floppy disk can deliver data at about 20 kilobytes a second. Not bad, but even my rather average HD does 500K/s, and faster controllers on even a simple A500 can do twice that!

- This is an improvement of 25 to 50 times, and it makes a BIG difference.

Nothing takes more than a few seconds to load, your system becomes much more usable and everything is at your fingertips in seconds - a great improvement on sorting through my 900 disk library. If you want to use your Amiga seriously, a hard disk is essential.

Interfacing

On to the meaty bit - control standards. A hard disk can talk to the computer in many ways, and each technique has its strengths. In order to connect any HD to your computer, you have to use a controller, which plugs into the computer in one place or another depending on the model. These controllers can currently be of four different types, each of which has its own corresponding type of drive, incompatible with the rest.

ST-506

This is the granddaddy of them all for the personal computer. Officially titled MFM, for the Modified Frequency Modulation used to encode data onto the disks. On the Amiga and elsewhere it's more often called ST-506, the model number of an ancient 5Mb Seagate drive introduced in 1980. Some people also call this type XT drives, because the old IBM XTs and clones used them almost exclusively.

ST-506 drives are hard to find these days. Nobody manufactures them any more, and secondhand units are often by now a bit unreliable. But for a really cheap HD, this is the way to go - on the Amiga most probably by using an old A590 hard disk unit, whose stock internal Epson HD755 20Mb drive is ST-506 format. You could get an old model like this in good condition for less than \$500, and the A590 also includes a SCSI interface (q.v.), so you could be up with the big boys in one simple step.

The current A2091 drive controller does NOT support ST-506; it's SCSI only. The original non-bootable A2090 and improved 2090A, like the A590, support ST-506 in addition to SCSI (simultaneously if you want!), and many A2000s still use these XT drives.

The ST-506 is a very elderly interface these days, and if you decide to settle for it you'd better be ready for hassles; out of date equipment, ludicrously expensive repairs compared to the cost of the drive,

and not being able to take for granted modern luxuries like automatic head parking. This moves the read/write heads to a safe "landing pad" whenever the drive's powered down, so no damage can result during transport, and it's a feature of some, but not all, ST-506 controllers - notably, the A590 doesn't support it, unlike the earlier A2090A.

Instead, you have to run the park program every time you move the drive - or for safety, every time you power down. Everything from the 2090A onwards supported sending park instructions automatically to the drive - and more recent drives park themselves with no help at all; in fact sending a park instruction may cause damage.

Remember, when I say slow I mean SLOW, with performance of less than 10 times floppy - 175K/s with a following wind on a 68000 system. The maximum transfer ST-506 can achieve is 655K/s, but these figures represent the absolute raw maximum amount that can go through the hardware. HD interfaces are invariably hobbled by the speed at which data can be hauled off the drive, and the speed at which it can be shoved into RAM, which with slow XT drives and a 68000 are both down on the maximum transfer.

And just in case I haven't scared you off yet, you may well end up spending many moons setting up your MountList, as getting ST-506's arcane low level command structure to work properly is very much a black art.

But if you're stuck for cash, don't need enormous speed, have a reasonable degree of familiarity with the machine (or at least a willingness to learn and a high tolerance for annoyance) and see a good deal, it could be worth a punt.

The old controllers are certainly cheap (how about \$20 for a 2090?), and if you've got a 2000 with some spare slots you can whack in several for two drives each - I've heard of a 2000 with 180Mb of ST-506 storage in no fewer than SIX drives, and a 40Mb SCSI on top of that!

Enhanced Small Device Interface (ESDI)

This interface is not, to the best of my knowledge, used on any Amiga hard disk controllers, but it is quite popular in the IBM world. It is an extension of the venerable ST-506 standard, and uses a simi-

lar 34 wire control and 20 wire data cable configuration. Like ST-506 and IDE, ESDI usually supports only two drives, but unlike ST-506 can actually address seven. And like ST-506, it's a low level interface, which sends direct commands to the drive (select this head, move it this far and read for this long), while IDE and SCSI rely on extra smarts built into the drive to allow higher level instructions ... find this and I don't care how!

Although ESDI bears a more than passing resemblance to ST-506, they're basically incompatible, with two quite separate types of drive needed. The biggest difference from the user's point of view is speed - the basic transfer rate for ESDI is twice that of ST-506. ESDI also allows a forgiving maximum cable length of about three metres before data corruption shows up, which makes it practicable for external connections - although why you'd want the drive that far away from your computer's something of a mystery.

Intelligent Drive Electronics (IDE)

IDE was the first of the high level drive interfaces, which emerged in 1984 and has now become the standard drive controller for the vast army of clones out there. This means that IDE drives are plentiful and secondhand units are freely available at good prices.

The first popular IDE controller for the Amiga was the ICD AdIDE. It fits A1000s, 500s and 2000s and allows tiny 2.5" IDE drives and standard 3.5" models to be easily controlled, without tying up any slots. Quite a few A500s got converted this way, the internal floppy replaced with a HD the same size.

More recently the A600, 4000 and 1200 have hit the streets, and Commodore has followed the clone lead in including an IDE interface on the motherboard, so you don't waste expansion space adding the HD controller. For smaller machines the choice is obvious, because IDE drives are a little cheaper than the other high level format, SCSI, and the controller is also simpler. Result - less size, lower cost. IDE is slower than SCSI, but on a low to medium powered machine you'd never know.

I believe the 600/1200/4000 IDE controllers to be capable of addressing two drives, since every other IDE controller

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Note: Please Print

known to man does, but I've not yet heard of anyone doing it - for the two console machines it'd be a butcher job.

IDE is very much an internal system, since cables can only be about 45 centimeters long at most before problems arise. That aside it deserves its popularity - drives and controllers are cheap, and speed's fine for all but the turbo-crazy.

Small Computer System Interface (SCSI - say SCA-ZEE)

This was originally developed as the Shugart Associates System Interface (SASI). SASI was created to allow easy connection of various sorts of devices - not just hard drives - to PCs without building a separate controller for every gadget. IDE is similar to SCSI in that it too uses "smart" peripherals, but IDE doesn't support any hardware other than drives. From a SCSI controller you can run regular hard drives, tape backups, CD-ROMs, magneto-optical drives, removable hard

drives, printers, digitisers and more.

SCSI at present comes in two flavours. The standard SCSI-1, finalised in 1986, supports transfer rates of up to four megabytes per second (once again, this is impossible to achieve in the vast bulk of configurations), and eight devices can be addressed. This isn't as great as it sounds, since one of these devices is the controller itself, but there's no other way to connect many new high-tech peripherals.

The Future

The other flavour of SCSI, SCSI-2, had its specs completed in August 1990 and should have been published in full by the time you read this. It allows ten megabytes a second transfer, and extends the transfer bus to a full 32 bits so monster machines can actually approach this maximum without being choked back to an eight bit data bus.

The new Atari Falcon, successor to the miserably failed ST, includes a SCSI 2 interface as standard. Unfortunately

Commodore will have beaten all of its other specs by the beginning of 1993 and Atari hasn't the budget to get the machine going; it's a shame since the thing looks quite interesting.

Commodore has copped more than a little flak for including the IDE interface in the 4000. This mighty 68040 monster runs easily 50 times faster than a stock 68000 Amiga, and at these kinds of speeds you see IDE's shortcomings. SCSI is an interface far more suited to the power machines, say the detractors, so where does Commodore get off using a cruddy IDE controller?

Commodore has a SCSI-2 interface just around the corner. It's probably out as you read this. So putting the older SCSI-1 into the 4000 would have been a considerable added expense for something that people who just want a HD wouldn't really notice, and the power users would immediately make redundant by installing the SCSI-2 board. Commodore compromised, and put in a cheap IDE interface and drive to tide the machine over.

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SCSI's multi-device design shows up in the possible cable length, too, which is an expansive six metres for the common single-ended version and up to 25 for the less popular differential design. Thus networking of machines to a central server with very fast SCSI connections is possible.

If you're after real bulk storage SCSI is the way to go. SCSI drives of a gigabyte or more are freely available (now less than \$4000), and removable drives like the Syquest 44 and 88Mb give theoretically unlimited storage. For home use, though, SCSI may be overkill.

Comparison

So how do the different interfaces stack up? Well, ST-506, as I've shown, is for those who can't afford anything better. It's the '76 Corolla of HD interfaces, but once you get it working it's certainly a sight better than floppy and with a bit of poking around (try using the Aust_Trading FidoNET echo mail area - it's free!) and

the investment of some time you'll certainly get more megabytes per dollar than you would from any other option.

Of the more modern controllers, ESDI is fairly attractive, if you want fast transfer but don't need anything but a hard drive. Unfortunately to the best of my knowledge if you want an Amiga ESDI controller you've got to build it yourself, and ESDI drives are expensive and comparatively rare.

Of the two remaining, IDE seems the best deal in general, once again if all you want is a drive - or two. IDE drives are considerably cheaper than SCSI and ESDI, and they come in the small sizes that the other two modern formats have long forsaken - nobody makes a SCSI drive smaller than 50Mb these days, and 100 or more is usual.

But SCSI, for the serious user, is the one to go for if you've got the money. With SCSI increasing drive space just means plugging in another HD - not selling your old one and upgrading to a bigger drive. And you can use the excellent

Syquest removable hard drives, tape drives for easy, scheduled daily data backup, and even behemoths like the Sony 594Mb (!) removable cartridge magneto-optical drive (yours for \$4300). There's no other way to connect this stuff to an Amiga - there are a few tape backups that'll work from an IBM floppy controller but nobody's made one for Amiga - so if you want the best, SCSI's the way to go.

I use a SCRAM 500 SCSI interface, of moderate speed, which also incorporates the provision for 8Mb of RAM expansion and is very reasonably priced - and is available for A2000 as well. If you want the same thing but more so, go for one of the magnificently engineered GVP Series II controllers, which also come in 500 and 2000 versions, are considerably faster, and in the 500 version also allow accelerators, IBM emulators and more to be connected. You pay more for power.

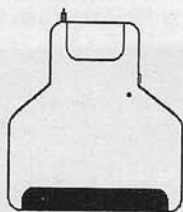
I hope this article's cleared up at least some of the mystery surrounding hard drives. Happy saving! □

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Floptical vs Syquest

Removable Mass Storage

Clocking in at around the same price, floptical disks and removable hard drive cartridges such as the Syquest units are both turning out to be popular choices for Amiga owners. Which one is better? Daniel Rutter compares.

On the face of it, the idea of the floptical drive is pretty good. By using optical tracks to align a conventional magnetic read/write head, a \$35 3.5" disk can hold 20 megabytes of data, and attain data transfer speeds considerably better than floppy. If you need to move large amounts of data around in a tiny package or back up a hard drive fast, it seems a great idea, particularly as it is also capable of reading ordinary floppies. The Floptical can also read/write and format high density MS-DOS and AmigaDOS disks.

Price

Unfortunately, the Digital Micronics external floptical drive at \$899 is perilously close to the \$899 external 44Mb Syquest removable hard drive, which is much faster and holds more than twice as much per disk - although admittedly at a considerably higher price per megabyte for cartridges. And new tape drives can now be had for not much more than \$1000 for backup purposes; used models come in around \$500.

With a tape drive you can back up a 250Mb HD without compression or more than 350Mb compressed, and since there's no media to swap you can simply schedule it to run in the wee small hours without you lifting a finger.

Nobody has yet come up with software to let a floptical drive read standard Amiga disks via a SCSI interface,

so overall the floptical is looking pretty sick.

Floptical

But before we nail down the coffin lid, you might just possibly want to know what it is we're burying. The drive as reviewed is in an external case, with two standard SCSI connectors on the back, an IEC power connection and a SCSI identity selector. A SCSI terminator and cable are supplied, and connection to any SCSI interface is dead easy.

The floptical disks - one is included - look outwardly just like standard high density floppies, with two ID holes one of which has the usual write protect tab.

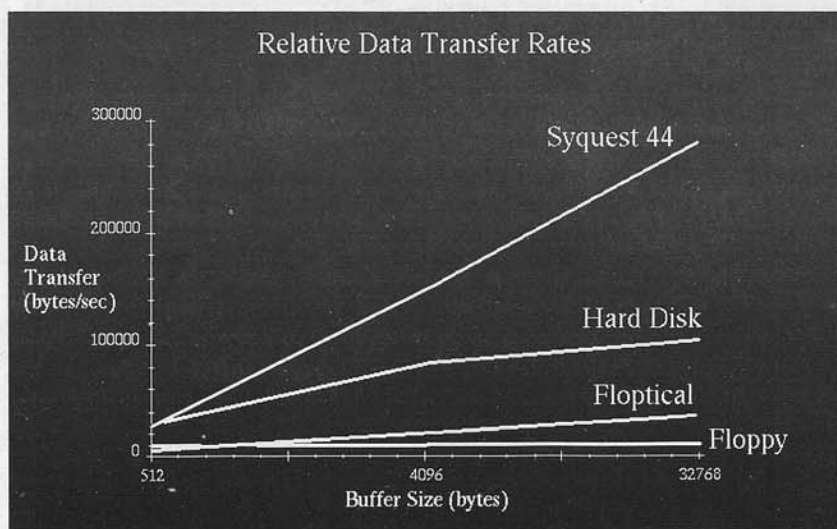
The actual medium inside the case looks quite different, being pale translucent orangey/beige instead of the usual black. The disks are about as resilient as standard floppies, which is a nice change for people used to the rather delicate Syquest cartridges with their protective transport cases, but at \$35 a pop I wouldn't push my luck.

The disks come out of the box low level formatted, which is rather fortunate since when I tried low-level formatting one, it took many moons to finish. The disks can be partitioned just like a hard drive - although why you'd want to partition a 20Mb disk is beyond me.

Like a Syquest, the floptical has occasional problems telling the computer when a disk's been changed. You must therefore use the CLI DiskChange command or the more powerful PD program SCSIMounter (Fish 532) to inform AmigaDOS of the change of media. (*This can be solved to a point under Workbench 2.x with correct formatting of all disks under one SCSI controller - Ed.*)

Performance

The accompanying diagram shows the floptical's performance in comparison to my own Maxtor LXT(TM)-213S 200Mb HD, rated at 15.7Mbits/sec data transfer, a 44Mb Syquest (the 88Mb model, which can still read but not write



44Mb cartridges, is now becoming more popular) and my machine's internal floppy. The test machine is running a 68010 processor and a SCRAM 500 SCSI interface. Those with faster machines or SCSI interfaces (for example the GVP model) will get much better results, but the ratios between SCSI devices will stay similar.

The testing was done with DiskSpeed4.2, with LONG aligned 512, 4,096 and 32,768 byte buffers. I didn't use the 262,144 byte buffer, since very few real world tasks use such a large buffer. The Create, Read and Write scores for each medium were averaged.

As you can see, floptical performance actually lags behind floppy on a small buffer, and never reaches even a third of the transfer rate of my hard drive. And on large buffers the single platter Syquest blitzes the field, giving a 32,768 byte buffer score 7.7 times that of the floptical.

Conclusions

So, on the whole, a Syquest seems a better buy. If you need VERY compact storage of data for random recall (a tape drive can hold far more in a small package but is useless for anything but backup), with a storage format that's tougher than a Syquest cartridge, and transfer speed can be foregone, then the floptical will suit you down to the ground. The low cost of media could also be a plus, but if that's your major priority I advise you stick to floppy - maybe 5.25" even!

Nevertheless, some people are using flopticals, and if you want more information about this model and others, get access to a modem and post a query in the Aust_Amiga Fido echo area, where a lively discussion on the subject was running the other month.

At around \$400 the floptical drive would find a ready market - at that price, I'd buy one. It's solidly built, easy to use and should be reliable, but as it stands there are better options.

Thank you to GSoft for the review Floptical Drive - (08) 254 2261. Our Syquest prices were obtained from CPA on (02) 337 6255. □

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User Report

Using the Amiga as a Conference Display System

by Graham Wilson

In Sydney, July last year, two large fires started. One caused a fatality at King's Cross, the other although much larger caused no loss of life but destroyed a huge old warehouse near Darling Harbour and crushed many cars when brick walls fell on them.

On that very morning about a mile away, a number of people including myself watched from a balcony at Sydney University as the spectacular flames and smoke poured into the sky.

It was all a bit strange because it was the first day of the International Conference on Combustion. World experts on the behaviour of flames, on making explosives, rocket fuels and such like, had just arrived in the country.

I had been preparing for several months to help with this conference, and I and the 650 delegates were tempted to skip our obligations and watch the day long drama.

Background

I worked at the University Television Service and my task was to design and direct an information display system for the conference. This was so that delegates were not only aware of the particular scientific paper on in each theatre but also the three stages of each paper - "waiting", "presentation" or "discussion".

For a whole week there were lectures going on in five theatres simultaneously. The theatres

were already equipped with TV monitors and video lines ran from our main TV control room.

The lectures were timed to 30 minutes each. This meant that delegates wanting to move elsewhere, would know

when to move without causing too much disruption.

In each theatre, we had the time-keeper equipped with a two-way radio and we had a sixth radio in our TV studio control room acting as the base station.

On the Day

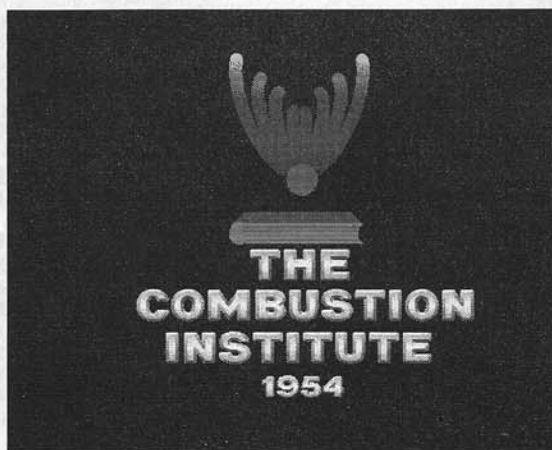
We would hear a whisper "Delta, going to discussion". We then knew that in theatre 4 (Delta), the presentation was finished and the discussion was starting. The display was updated immediately and all delegates would see the change.

Another important part of the visual presentation was to respond quickly during the waiting or discussion time with general messages, such as "Prof Browbeaten's lecture will be at 2pm not 3pm"; "There will be a tour to Lucas Heights Reactor on Wednesday at 10 am"; "Someone has found a set of car keys", etc.

Our control room is normally set up with Betacam editing equipment, an old Amiga 2000 usually used for TV graphics, and an early Neriki genlock. Before the conference week we managed to add a hard drive to the Amiga and to borrow a little Panasonic vision mixer. I had to train a few people in some simple radio procedures, and the basics of *Broadcast Titler2* (BT2).

The only reason we needed the Panasonic machine was because it had a built in frame store. By hitting the "freeze" button, the image from the Amiga would just sit on the TV screens. We could then make whatever updates necessary, even reset the computer without our viewers being aware. When the Amiga screen was all updated, we just "unfroze", and an instant, clean change took place.

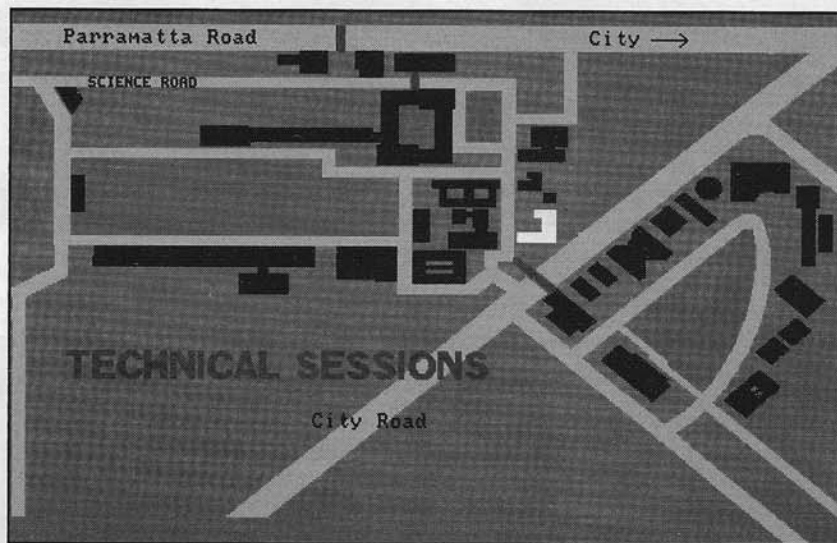
We were able to change and prepare message screens during a "freeze" period, and when finally displayed, we utilised many



A flame and a book was the logo

The main display screen - Page 1 in BT2

24th Int. Symposium			PRESENTATION		
Room	Session	Paper	DISCUSSION		
			WAITING		
4	345	P-91	X		
5	224	P-561		X	
7	334	P-245	X		
8	271	P-76	X		
9	555	P-124			X



A map with colour cycling

of the smooth screen transitions within BT2. The pages in BT2 are run in sequence from No. 1. By using a page cut and paste option, we were able to move the most vital messages to No. 2 position, No. 3 and so on. Our main display page showing the status of the lectures was always No. 1.

As soon as we heard that all theatres had finished their presentations, we would "unfreeze" page 1 and then do a series of smooth transitions to those pages following. Quite often we held a few "spares" at the end of the sequence. These blanks just held some of our favourite background colours and could quickly be typed on when a message was handed in for display.

Problems

BT2 can hold a large number of beautiful text-only screens, however it requires a lot of RAM if you intend displaying many IFF pictures. BT2 has to load every picture into RAM beforehand.

We were a little short of RAM, so I used *AmigaVision* to display a loop of maps, logos, and general information screens. These *AmigaVision* loops were run during lunch breaks. Also we started them up at the end of the day so they would run all night and were still going strong early into the next day, impress-

ing everyone with our apparent morning diligence. *AmigaVision* loads each picture in turn from the disk, so you are only limited by disk space - not RAM.

Of course the pictures were created with *DeluxePaint*. Some, such as the maps, used colour cycling to focus attention on a particular venue.

In Review

The whole thing was a great success. I was told that at the previous

conference, two years ago in Paris, the display was quite poor in comparison. The computer display cost ten times more, and there was no on-line message system. It was not an Amiga.

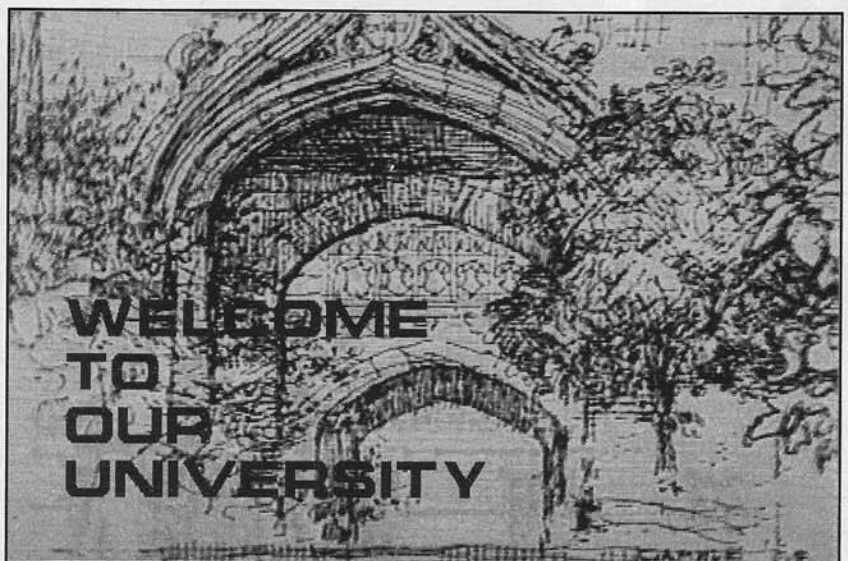
The next one will be at the University of California, (Irvine), and I was amazed that the Americans now want to adopt this same Amiga display system for all their conferences, as it was the best they had seen. □

About the Author

For about 18 years Graham Wilson worked as a TV producer/director at the University Television Service. Following a hang gliding accident, he spent the last ten years in a wheelchair with only the use of one arm. Because of the more static lifestyle, he gradually taught himself some computer graphic skills, and found he was doing more and more with the Amiga not just for his own productions, but for others as well.

Late last year, after internal and financial problems, the TV service was shut down. He was given a three months reprieve mainly to complete the conference obligations. Despite the success, on 21st August, he became redundant and is hoping to continue graphic or TV work from home using his recently acquired A3000. □

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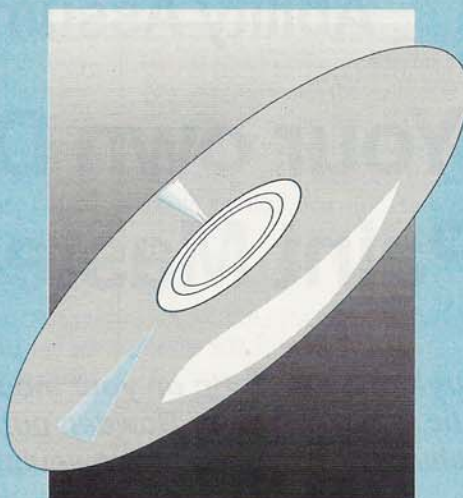
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Ability Assumed ...

Your own Deluxe Paint Masterpiece

Still trying to get a grip on your mouse when it comes to artistic talent? Graham Bowden outlines a sure-fire way to churn out your own hand sculptured masterpiece.

After much thought I've come to the conclusion that the path to perfect pictures is a simple matter of parental choice. That's your choice of parents, not your parents' choice for you. I've determined you see, that artistic talent is in the genes. Choose parents from the Rembrandt or Gauguin gene pool and you're almost assured of creative genius. Conversely choose from the Ned Kelly or Attila the Hun pool and you're doomed to a life of tracing paper, join the dots or paint by numbers. Worse still, choose from the salt water or chlorine pool and you'll likely end up diseased. But I digress.

No longer are you doomed. With the advent of the affordable graphics powerful computer - read Amiga - and affordable paint powerful software - read *Deluxe Paint* - the prognosis for surviving your next art attack is excellent.

Figure 1

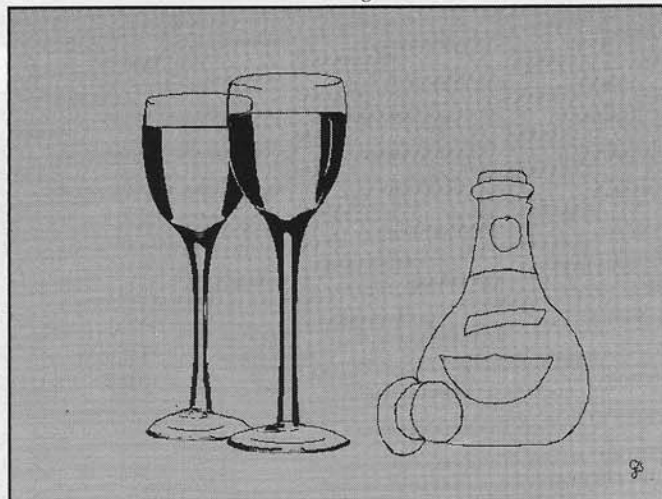


The Advantage

Although the tips I'm about to pass on are from the post blu-tac school of modern ersatz-art, the Amiga and *DPaint* allow for greater satisfaction once the masterpiece is completed than did the tracing paper and crayon method we used as cherubic infants. Unless you're a modern cherubic infant in which case your parents will have supplied you with an Amiga and you'll never know the frustrations of old.

Be that as it may, with *DPaint* mistakes along the way can be quickly and tidily undone, colours can be changed without having to redo the entire thing,

Figure 2



stencils make it a breeze to stay inside the lines, fill patterns give instant and striking results and, once completed and saved, the piece can be modified in myriad ways using tinting, colourising, wrapping, palette manipulation etc.

Dear and gentle readers, be assured that without *Deluxe Paint 4*, a magazine picture to adapt and the trimmed down top from an old shirt box, the intoxicating tour de force in Figure 1 could only have existed in my dreams. If your own particular masterpiece remains your personal nightmare have patience, for with this and most other drawing methods you'll need that patience plus a little time. Let's go ...

Step 1

Trek into your local KMart or equivalent and purchase the following art supplies. Some blu-tac, a fine tipped permanent ink felt tipped pen or chinagraph pencil and the cheapest shirt available that comes in a

plastic topped display box. Donate the shirt to the charity of your choice during the tour home but keep the lid of the box. Grab a sharp instrument and trim the box lid to form a template to fit your monitor screen. Now it's time for the tracer.

Tracing

Find a picture or drawing you'd like to roughly replicate and trace the outline onto the plastic template, then blutac the result to the screen. So far, so easy? Good.

Run *DPaint* and select a light coloured background and a dark one pixel brush. I suggest Hi-Res mode for its ability to produce finer detail. Also, as detailed in another tutorial, this resolution has the ability to simulate far more colours than other resolutions and is also free from the speed penalty and ramping effects of HAM.

With the selected drawing superimposed over the screen, mouse your way

around it then save the result. The example I've used in this article was chosen as a starting exercise because, though the picture is arresting, the glasses, bottle, cork and labels for the most part consisted of straight lines and reasonably gentle curves. *Deluxe Paint*'s vector and curve tools make tracing and adjusting these shapes a breeze. A glance at Figure 2 shows the embryonic stage of the work.

Colouring In

From here on in, with the screen template removed, it's a positively simple matter to colour it in and add the trimmings. In fact that was another of the considerations for choosing a picture such as this when starting out. Note there are large areas of plain colours which can be flood filled using any of *DPaint 4*'s solid, pattern or shaded fill methods. Okay, I'll concede not positively simple but reasonably simple still.

So the colouring isn't all that straightforward. Here then are some tips.

Figure 3 shows four detailed views of the means used to create the appearance of the glass bases, the translucent effect of the bottle top, the condensation frosting on the bottle and the cork with its twisted wire tie. Clearly the choice of palette colours is important. A range of about four greys plus black and white will almost always be required. The remaining ten basic colours I leave to your imagination and individual requirements.

A cheat

Check the palettes of individual pictures in your collections. One may contain the very palette needed for your next project. And never forget, in the pop-out Palette menu under the Colour menu there is provision for saving and loading palettes. It's there to be used.

Meanwhile back in figure 3, the glass base is a matter of time, trial and error using the range of greys available. To speed up the drawing of the "dotted"

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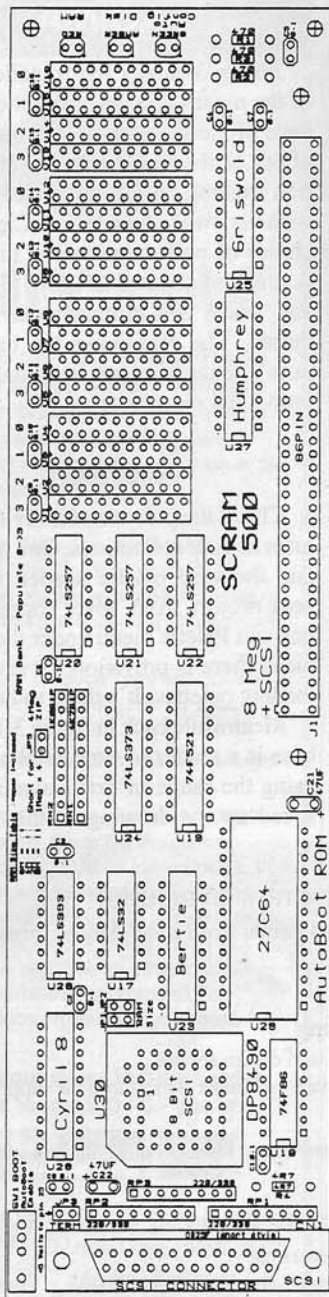
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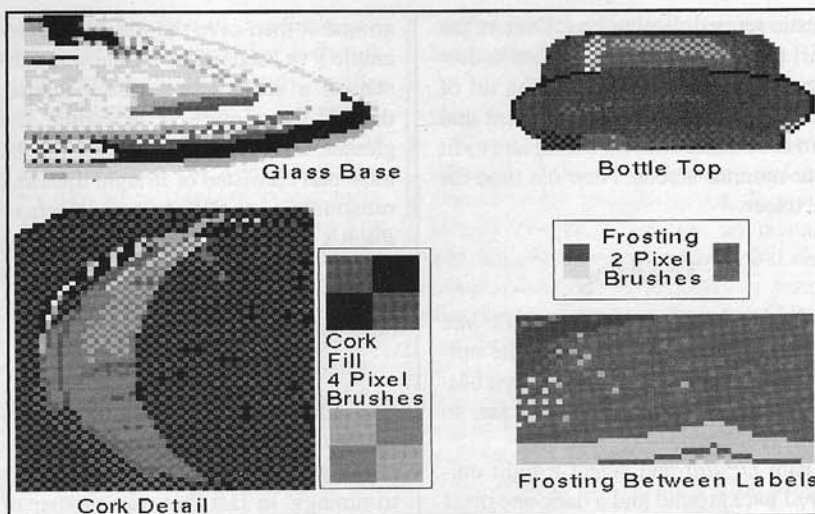


Figure 3

lines toward the bottom of the glass base use the "Spacing" requester (key-board <shift>-v). Select "Every Nth Dot" and type "2" in the adjacent box. Back on screen choose keyboard "v" to enter vector or line mode and, as various lines are rubber-banded out, the splats will be every second pixel. Simple. The translucency around the lip and ridge on the top of the bottle used the same technique.

The cork

The more delphian shades were flood filled using the darker 4 pixel brush with "Pattern-From Brush" selected in the Fill type requester while that (4 pixel) brush was the current brush. Naturally the lighter shades employed

the other brush as the pattern, only here "<shift>-d" was used to activate the freehand fill tool. This meant that when the paler checkerboard shape was drawn, it automatically filled with the selected pattern. Details like cracks and the wire twist have no shortcuts, they must simply be hand drawn. Experimentation in concert with the "Undo" tool works well.

What then of the cool looking condensation on the bottle and the effervescence in the wine in Figure 4? The brushes are there for all to see. Just create a stencil to protect all the colours except for those to be frosted over or fizzed in. Activate the airbrush tool from the toolbox - sorry, no keyboard shortcuts here. Clicking on the spray can with the right mouse button ena-

Figure 4

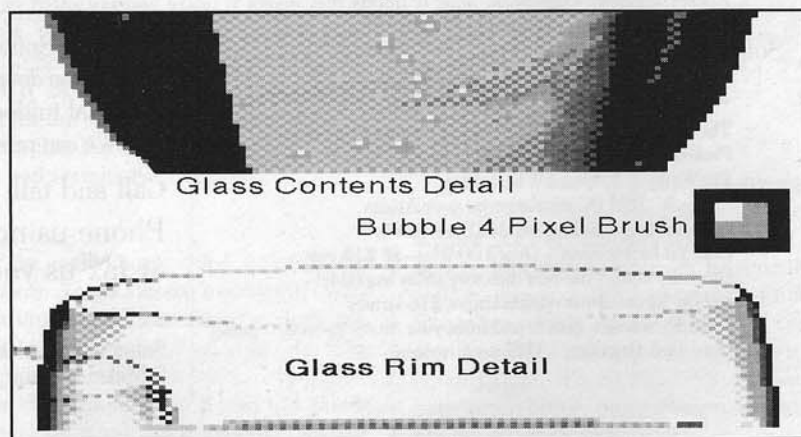




Figure 5

bles adjusting the area of the spray pattern to either contract it for dense frosting, or enlarge it for sparse bubbles. With the appropriate brush attached to the mouse simply spray on the condensation or bubbles. And with *DPaint's* stencil active it's impossible to paint outside the lines.

While we're looking at Figure 4, the rim of the glass again had the "Every Nth Dot" mode from the spacing requester enabled, only this time the curve - keyboard "q" - tool was used. With a darkish shadow drawn and sprayed below the bottle (stencil active again to protect the bottle and cork) the reflection took little more than a couple of minutes to complete. The bottle was picked up as a brush and inverted.

Translucency from the "Effects" menu was activated and left in the de-

fault - 50% - setting. The shadow was then stencilled as the only unprotected colour and the brush was stamped down as you see it. Finally the background shading employed the "Cir" setting from the Fill Type requester with the appropriate colours selected as the current colour range.

Recapping then the following *Deluxe Paint 4* features were employed along with our piece of plastic and Blu-tac.

In Review

The straight line and curve tools for the original outline. Solid and pattern fills along with a little hand touch up for the bulk of the colours. Spacing variations were employed from the Spacing requester for highlights then custom brushes, stencils and airbrush

mode were used for bubbles etc. Finally translucency was used for the reflection and the "Cir" mode with a suitable colour range finished the effect. Oh and the liqueur served admirably in its role of relaxant and mouse arm lubrication as well. Pure nectar.

What of the ability to modify the masterpiece once completed and saved? A quick pass through an image processing package can change the resolution, reduce the number of colours, adjust the palette a tad here and there and bingo!, a unique custom Workbench backdrop.

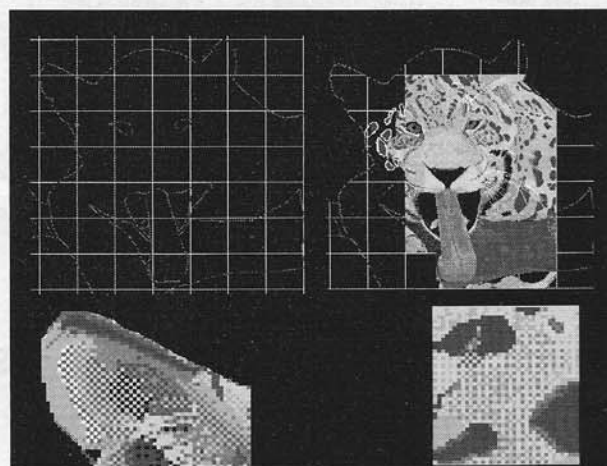
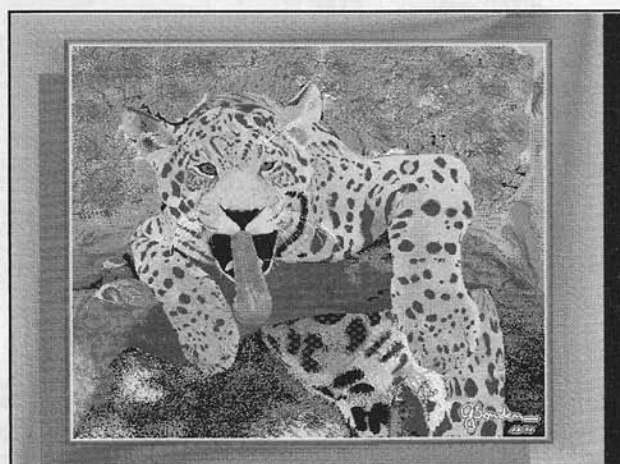
Another Method

There is another method used by we artistic dyslexics to create acceptable art. Dubbed the neo-cubist classic style, it involves drawing a grid over the original picture or photograph and another grid onto the *DPaint* screen. Each postage stamp - or smaller - sized cube is then painstakingly replicated with a surprisingly accurate copy ensuing.

This method is most suited to finely detailed drawing as seen in the leopard picture. The time taken to draw that particular piece could have easily spanned a geological era with much time being spent in "Magnify" mode using stencils and exotic pattern fills. But hey, look at it. It was worth it.

Ah well, off you toddle then and practise your painting. As for me, I'll be seeing you.

Ciao ... Graham.





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by Daniel Rutter

Term to 2.4

The enormous WB2-only comms program *Term* has now hit v2.4, with various improvements to the phonebook, terminal emulation, clipboard, file transfer, user interface and more. *Term* has the advantage of being the only completely free terminal program for the Amiga with all mod cons. If you're looking for all the bells and whistles at the right price it's perfect. *Term* is available from all good Amiga Freely Distributable software libraries.

Terminus

On the same subject, *JR-Comm 2.0* will be with us shortly. Jack Radigan's excellent ShareWare comms program hasn't been updated for ages and from what I've heard the new version, renamed *Terminus*, should be a corker. An illegal beta version has been doing the rounds, and from what I've heard offers WB2 support, an AREXX port, public screen support, a script language just like *NComm* with enough commands to run it as a host, better support of scrolling ANSI text (always a problem with the Amiga, which doesn't have a text mode), user friendly setup menus, and multitasking of most functions. Like *NComm*, it can now have setup/scrollback/etc windows open while you type online. Thanks to Rob Nottage for this info. When I get hold of a real copy I'll give you all more info on this.

AutoCLI 2.30

AutoCLI's an old favourite ShareWare utility from local programmer Nic Wilson, and offers a host of useful features for Workbench 1.x or 2 users. It'll do function key assigns, magnificent screen blanking, mouse acceleration, simple virus checking, PopCLI from hotkeys, automatic disk formatting, screen and window shuffling, mouse acceleration, automatic window activation on keypress or mouse, mouse button switching, and more! It's one of the original everything-utilities, and the current version keeps it

very much up to date. It may not be distributed for profit, so you should only be able to find it on BBSes and through user groups - but it seems Fred Fish is exempt since recent versions of *AutoCLI* are in the wonderful AmigaLibDisk list.

AIBB to v5.0

Amiga Intuition Based Benchmarks is the standard program to use if you want to know just how much of a fire-breathing monster or pencil-necked geek your Amiga is. This latest version fully supports the faster functions of the newer DOS 3 and AGA chipset; a hypothetical 68000 based AGA machine would run faster than a standard 68000 Amiga.

This extra compatibility will mean little to most users, but it's an exercise in humility to see the 4000's speed averaging out an easy 15 times that of a stock 68000 Amiga - and I've seen a friend's machine blown away by a factor of 35 on one test! *AIBB* is a completely non-profit proposition as well - Fred Fish's library doesn't include any recent versions - so finding it is your problem.

WBClean

This tiny program's sole purpose in

life is to close every window on the Workbench under WB2, without closing Workbench itself. Just put it somewhere convenient and double click it whenever you need to tidy up.

ReArc

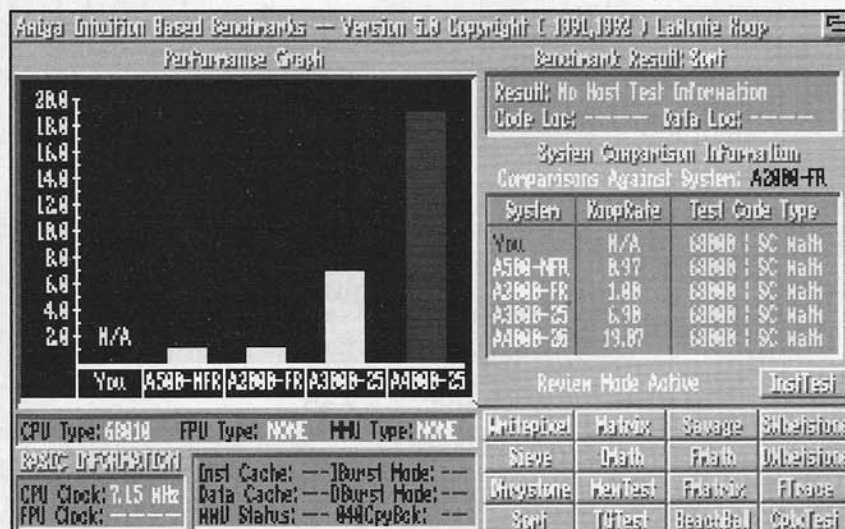
ReArc is a utility to take older archive formats, or formats not popularly used on the Amiga like *ARJ* and *ZIP* and turn them into standard Amiga format - these days *LHA*. It can do much more than this, but this is what I use it for and darned good it is too. It works by using external programs, and co-ordinates them flawlessly.

To save you hunting around, I've included *Arc*, *Zoo*, *UnARJ* and *UnZIP*, with *Lha* on the disk already for extracting all the other archives. The only other archive utilities you could possibly need are *DeCrunch*, from the commercial *PowerPacker3.0b* distribution, and *APE*, a program used so often that I've never needed it.

ReArc is happiest running from hard disk or at least on a machine with more than a megabyte of RAM, but you can scrape along with less. It runs fine on 1.x or 2.

TankAttack

Right after I finished compiling *Hot Games 9* I found this little gem, a two to four player tank battle game with extra weapons, great graphics, okay sound and plenty of playability - even if it is very flaky under WB2; I got it to run that way



once but I don't know how. Since it'll be a while before another Hot Games disk comes out, it's on the companion disk.

BootX Recog 1.72

BootX is a virus killer about which I've said plenty in past columns. The current version of the main program is still 5.20, but the Recog file which allows *BootX* to identify viruses has gone to v1.72, adding a couple of extra nasties. Keep up to date!

SeePix

Yet another IFF picture viewer, with one useful twist - it lets you change the palette of your picture prior to printing, without actually modifying the pic. Not earthshaking, but useful.

DellInfo

Another weeny program. This one's sole purpose in life is to find and destroy .info files - icon files. Thus can useless icons be removed from directories you only access via directory utility or CLI.

DellInfo is PostcardWare - g'wan, try to figure out what the author wants you to send him ...

HDAnim

This simple utility plays big animations from hard disk, as fast as it can haul them off it. So you can theoretically play anim files as big as your HD on a plain 1meg machine.

FastGIF

Another quickie - it displays GIF format graphics VERY fast on even 68000 - but only in black and white if they've got 256 colours.

Wasp

A much bigger version of the same thing, with output to tons of Amiga graphic formats including SHAM (Sliced HAM), CTBL (Dynamic HiRes), PCHG (multipalette), ExtraHalfBrite and of course HAM, with more bells and whistles than you can poke a stick at. This is v2.00b.

SaferPatches

A little program which, in essence, checks to see if programs change little bits of DOS and sets things up so if the programs quit in a different order to the order they started in, your system doesn't go spong. I've been running it for a while and it doesn't cause any failures of its own, so your system can only work better with it. It also runs fine on any version of the OS from v1.3 on.

WKSC

On Fish 739 you'll find *Workbench Keyboard Shortcut Changer*, a little program for all versions of Workbench which allows you to assign keyboard shortcuts to all of the WorkBench items, and change the existing ones. Thus can you have easy access to features that should have had a shortcut all along, like Delete and Format.

Kan

Not a brand new program but a blessedly useful one, *Kan* patches the standard

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CompressDisk

IBMers have for some time had access to several "Disk Doubler" type programs, which use on-the-fly compression to make a hard drive seem much larger than it really is. Now Amiga users, too, can get more for less, but since all the compression is done by your CPU I'd steer clear unless you're on 030 or better.

CompressDisk is a ShareWare program which works by making a large file on your hard disk (just like *FMSDisk*, see last month's column), but it compresses any data written to it and decompresses as you read the data back. It seems stable - on my humble 68010 I've not used it seriously - and with a fast processor will give you more room for little more money.

FontCacheX

You may be familiar with this fun occurrence - you start a program which for some reason lists your fonts (like the standard Font Preferences utility), and it takes many moons to do it. The list appears, you select a font, all is well. Then for some reason you list the fonts again - and it takes just as long. *FontCacheX* caches the font list, so subsequent calls to the font list happen much faster. Simple and seemingly bulletproof.

BBBBS update

The melodiously titled *Baud Bandit Bulletin Board System*, a powerful freely distributable bulletin board system, has been updated to v5.5 on Fish 745. The improvements are evolutionary rather than revolutionary (and also too extensive to list here), but it's a great package

and well worth a look if you're considering getting a BBS running.

MagicMenu

This is an extremely groovy little menu utility for DOS 2, documented in German but easy enough to use. It gives Silicon Graphics-style pop up menus, which appear under the pointer, and also allows considerable flexibility in selection styles - I've got it set up so I just have to click the right button for the menu to pop up, and it'll stay until I select something with another click or click elsewhere. It takes a little getting used to but works well, and seems much more stable than *SiliconMenus*, an earlier effort which looked terrific but stopped there.

Popper

Another menu utility, with something so clever I'm surprised nobody thought of it before. *Popper* allows you to do pop up menus, like *MagicMenu* only less so, but it also allows you to "tear off" menus - while a menu's up, dragging with the left button on its title rips it free and turns it into a window with a close box, so you can have oft-use menus permanently visible. It's possible to pile up programs with this feature, but used carefully it's really useful, especially on slower machines where menus selection from large lists can take time.

FO/FO2

Fast Optimiser has now hit v1.3, and its WB2 only 1.5meg RAM cousin *FO2*, which gives a simple Intuition interface, is up to v2.5. They're the fastest way to get floppy disks organised to reduce disk grind to a minimum. But they STILL won't optimise anything other than floppies - I WISH I could get it working on RADs or FMS imitation disks. *FO* and *FO2* are both on Fish 744.

Galaga

Another good PD game, this attempt at the classic *Galaga* has been around for a while but only recently have I found a version in which the enemies are actually visible - go on, call me a wimp, but I do like to see what's shooting me. This version's pretty smooth, quite playable and, notably, free. It's on Fish 738, and any other profit library distributing it is breaking the distribution license.

Virus Checker 6.19

After having it pointed out to me that my column was turning into the Australasian *BootX* Festival, I thought I'd better mention another of the great stayers of the anti-virus software world, John Veldthuis' *Virus Checker*, now up to v6.19 and going strong.

Virus Checker offers plenty of power in a much smaller package than *BootX*, which makes it great for floppy based systems that want a continuous virus checker rather than an occasional separate scan.

It's easy to set up, with no extraneous devices or libraries, and (fanfare) it runs fine under WB1.x, a feat which is now impossible since *BootX*'s newer recog files only load into the WB2 only v5.20 version.

As I write this, I have not yet got permission from John Veldthuis to include *Virus Checker* on the companion disk for this column; since the deadline for the disk is a month later than that for the column, it'll certainly be there if he wants it to be.

AutoRunner

This extremely nifty program, of use almost exclusively to those poor unfortunates stuck with floppy, sits in the background and, upon the insertion of a floppy, looks to see if there are any comments on the disk starting with + or f, and if it finds one, executes it as a command. Hence you can have +Execute RunProgram.bat on the disk, and upon insertion that batch file will execute automatically. This program makes life much simpler for floppy disk systems, but you'll only find it on Fish 744 or through non-profit channels.

Lemmings II Demo

I have recently downloaded a terrific demo of the sequel to *Lemmings*, which includes a lot of new classes of lemmings (Archers, Skiers, Balloonists, Attractors ...) and includes a few levels - I don't know how many since I'm stuck on number three. Should be available from all good PD libraries!

TextFiles

On my monster A500's hard drive I

have more than 34 megabytes of ASCII text. There's every useful article from the last 30 issues of the wonderful Megadisc disk magazine, all the stuff I've written and tons of other data. Of these files, there are a few I thought were especially interesting, so I included them on this month's companion disk. They cover:

- * Modifying your 500 for a meg of chip RAM, a mod I performed successfully

- * An extra RAM disable switch hack for the 500

- * two files on various Amiga fixes and hacks

- * Frequently Asked Questions, clarifying many areas of Amiga operation

- * The Complex Interface Adaptor (CIA) chips which cause so many Amiga failures

- * The RomWACK debugger

- * A complete early history of the Amiga from conception to the first A1000

- * How to make your 500's keyboard detachable

- * And, finally, a suite of files on building a stable 16MHz accelerator.

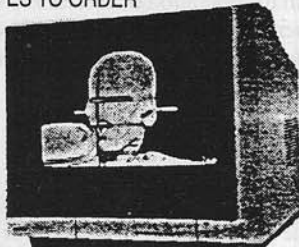
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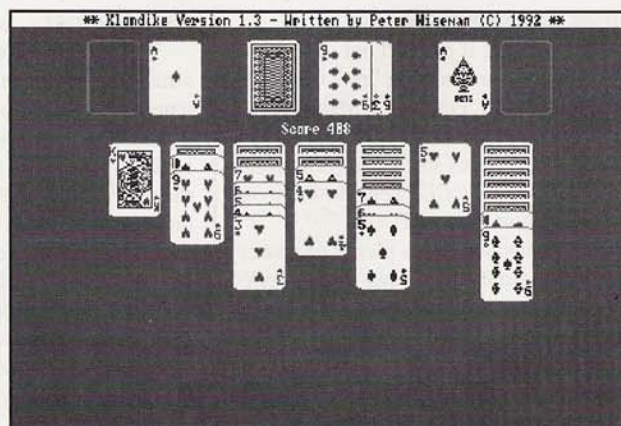
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There's stuff here for all levels, from novice to expert, and I've made use of all of it at one time or another. Note that I will take NO responsibility if anything in these docs is wrong, or if you follow instructions wrongly, and consequently smoke your computer, yourself or your pets. Just about all of the hacks described will well and truly void your warranty - but heck, who needs them anyway.

SnoopDOS1.6 FAKE

Unfortunately, it seems that every time I write this column I have to tell you about another instance of attempted digital vandalism; this month is no different. There's a fake version of the invaluable DOS monitor *SnoopDOS* doing the rounds, which has no improvements over the old 1.5 and is said to interfere with the operation of certain BBS systems - and possibly cause other harm. The fake version is easily recognised - it's 11312 bytes long and lacks a version string. There's also a real 1.6 out there, with some very minor bugfixes, which is 10808 bytes long.

Hot Games 9

I've been compiling games disks for Prime Artifex for some time now, and this is the latest. It contains *Adventure*, the original *Colossal Cave* text game which is still very playable; *Columns*, a great *Tetris* mutant which is actually DIFFERENT; the latest version of *Klondike Solitaire* without the crippling (although it is still ShareWare) and with some nice improvements; *Nebula*, not new but plenty good enough and featuring very fast vector graphics; *Omega Race*, one of my favourite Golden Oldie conversions; and *Pod*, a blistering arcade quality GridFire style blastup. It's all bootable, easy to run, works on WB1.x or 2 and is easy to install on hard disk.

Companion Disk

The companion disk for this column, HotPD 5, contains everything listed, except where otherwise noted. To fit all the stuff on I've had to archive it all, but every program's in an individual archive so people without hard drives won't have to wrestle too much with LhA and its confusing command structure. I've also decided to forego icons (time to learn your CLI or get DOS 2, folks) since they don't help much with archives - although some of the archives contain icon files. □



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Desktop Publishing

Well folks, we finally managed to kick off our promised desktop publishing column, which by the way will normally be written by Andrew Farrell. Since this issue was prepared partly while our editor was on holiday, George Kimpton has the thrill of writing the first installment - on Hotlinks 1.1 for Pagestream owners.

Desktop Publishing has come of age with programs such *Professional Page* and *Pagestream*. Much effort has gone into making both of them as flexible as possible but even so, editing of articles or graphics already laid down on a page can sometimes be very frustrating.

Anyone who attended the last World of Commodore Show at Darling Harbour probably had a look at the *Hotlinks V1.0* demo.

Text and graphics were modified in a *Pagestream* document with consummate ease and speed right before our eyes. I know I was most impressed and have been waiting to try it out ever since.

To be fair, *Pagestream* users have always had text editing available for their desktop productions. However, major changes usually meant dumping the complete article and going back to a word processor to revamp the original. This had to then be re-saved and re-imported into *Pagestream*. This was always a slow and tedious operation.

(*Professional Page* owners have long enjoyed the ability to pull text in and out of documents thanks to a "hot-link" to *Transwrite*. Version 3.0 of *ProPage* offers a similar link to *ProDraw* ... more on that next month - Ed.)

Bitmapped Images

Another problem was the inability to modify bit

mapped graphics except for cropping or scaling of already installed pictures in a *Pagestream* document. Again the only answer was to dump the graphic if it needed real changes, revamp it in a paint program or whatever and start from scratch again by re-importing it.

These problems have been overcome to some extent with *Hotlinks*. Version 1.1 which I have just tested, not without a few problems I might say initially, has been upgraded from the initial V1.0. Some bugs have been ironed out and it now also has a trace facility in the BME module for your bit mapped graphics as well. Once you get around the installation problems, more about this later, it is quick and amazingly easy to operate.

What You Get

This latest version comes with three disks instead of the original two in V1.0. *Hotlinks*, *Pageliner* and *BME Editor*

each have their own disks now. The manuals have not been upgraded and are still the originals with one for each of the new disks, but there is an addendum supplied covering the software changes. System requirements are still pretty basic and the same as for V1.0. It apparently can operate from floppies but hard disk must be the way to go to avoid a mad spate of disk swapping.

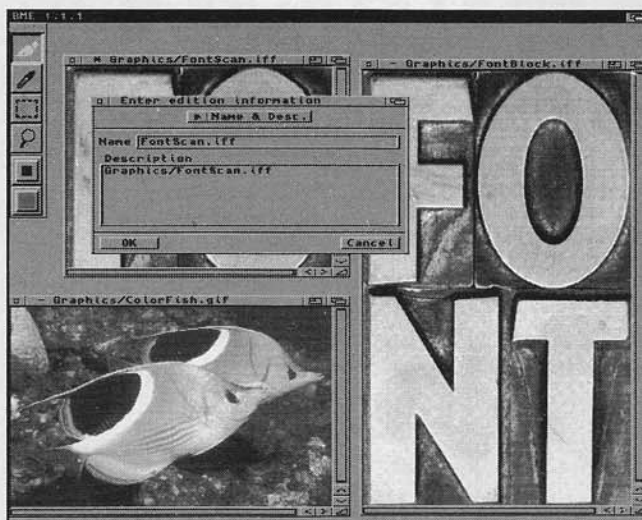
Installation

Each module has its own install icon which automatically installs the appropriate software, and this is the easy part. After the installation you are supposed to upgrade your *Pagestream V2.2* to be compatible with this latest version of *Hotlinks*. This should be easy as you are supposed to click on the Patch icon and away everything should go.

Unfortunately in my case, instead of patching *Pagestream*, it spat the dummy every time telling me it couldn't find *Pagestream2* or couldn't find the right file. After much hair pulling, checking assign statements and thumping the table I decided to resort to CLI for installation. I had already checked with Diskmaster and knew all the files and assigns were there and should work okay.

I religiously typed in the commands as per instructions in the ReadMe file but to no avail again. To cut a long story short, the instructions in the ReadMe file were wrong, but by modifying them to reflect the true file names and paths all was well at last. The moral of this story is don't believe everything you see or read, check it out.

The last part of the setting up entails checking your S-Startup file is properly configured if you run WB 1.3 or to drag the *Hotlinks* icon into the WBStartup drawer if you run WB2.0. This is necessary for hard disk users as *Hotlinks* must be up and running before *Pagestream* for it to operate properly.



Editing on the fly

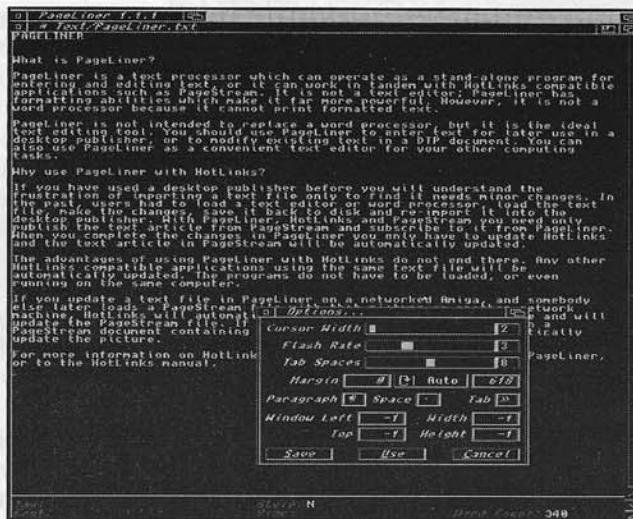
With *Hotlinks* running, to modify a text article, you just select it in *Pagestream* and click on Publish, whereupon you are asked to name the text for posterity. This then creates a file called an Edition which becomes the master file for all further operations. A similar thing happens with any selected bit mapped graphics.

Once the Edition file is created you start up either *Pageliner* or the *BME Editor*, whichever is appropriate, and Subscribe to the Edition file. This opens up the file onto the working screen and away you go modifying to your heart's content. Once the mods are complete you click on Update and the Edition file is brought up to date.

If *Pagestream* is still running, the original article in the *Pagestream* article is also updated without any further action on your part. Should *Pagestream* be closed down during the editing, the article will be updated in *Pagestream* the next time it is brought up on the *Pagestream* screen, providing the links were saved before closing down *Pageliner*.

These mods to an article can be two way once the link is established, with corrections or changes being transferred both ways to either *Pageliner* or *Pagestream* with the Update command in each case. *Pageliner*, apart from being a text editor, can also be used as a limited word processor, creating text files of its own for use in *Pagestream* or elsewhere. In this case you either Publish them to *Pagestream* or save them as an ASCII file.

The system works well once you get the hang of it, although it would be nice not to have to switch screens to boot up *Pageliner* or the *BME Editor*. Menu access would be nice here. This is one instance though where the Amiga multitasking comes into its own, you just flip one screen behind the other with a click of the mouse or hot keys.



Wish Lists

This perhaps brings me to the wish list of things to make *Hotlinks* even better.

First let's upgrade *Pageliner* to allow more variety in text manipulation. There is no provision for changing fonts or text sizes in the usual way although the usual styles are available and all *Pagestream* fonts, which are installed, are accessible by *Pageliner* through tags. There are the usual spell checks, find and replace, cut, paste and copy etc. but no full fledged word processor. I am reliably informed however that the new *ProWrite* is *Hotlinks* compatible so maybe this will get around this limitation.

Second need is for a wider range of drawing tools in the *BME Editor*. Sure you can cut, copy, paste, fill, crop, clone and trace and you can even choose the brush size and shape to draw. The only problem is if you make a mistake there is no undo command and there is no eraser mode like in *DPaint* although you can copy any screen colour for your drawing colour and draw over the mistake.

This copying of colours would probably be okay if you didn't have to work in grey shades on the screen. If you are working with a HAM picture there would be no guarantee that you had picked the right pixel for the colour you

wanted to draw with. Sure one of the tools displays both the equivalent grey shade and the original colour and you can magnify the working area to help in selection, but there is still that element of risk.

On the positive side it is possible to cut or copy from one picture and paste on to another, but no sizing of the paste item is possible. The paste can be done with one colour transparent for special effects. The cropping and clone facilities are also useful.

Trace Facility

The trace command works well but has limitations with HAM type graphics where colour transitions are not clearly defined. Limited colour ranges work best. Trace also has the ability to choose a background colour which will be transparent to simplify tracing. Curve fit, sampling rate and a noise filter are controllable to improve the final picture but care should be taken in setting these as some choices can make slow traces even with an O30. Look for a comparison of the trace function with *ProDraw*'s trace utility next month.

Conclusions

It's a shame that the supporting programs i.e. *Pageliner* and *BME* are so limited in their capabilities as *Hotlinks* has much to offer and appears to be similar to the OLE system in MS-DOS. The addition of *ProWrite* to the stable may hopefully cancel out the limitations of *Pageliner* but we still need a paint program which is *Hotlinks* compatible.

Well worth a look but to achieve its full potential it needs more compatible programs such as the new *ProWrite* and a revamp of a paint program like *DPaint* or an upgrade in *Pageliner* and *BME*. *Hotlinks* is imported directly by several large dealers. Ask your local reseller for more details. □

AMOS Column

by Wayne Johnson

I have a lot to cover this month so I won't waffle on too much except to say for the thousandth time - yes, there is an upgrade path for existing AMOS owners. \$106 plus the front cover of the AMOS manual. Check relevant ads.

AMAL from the Beginning

I promised this for the last issue, but due to a mutant Cockroach attack, it's been saved for now. Firstly, why AMAL, and what is it?

AMAL is simply a sub language that allows you to write small sub programs to run under interrupt. What this means is that you can have a program to draw random lines on the screen while a BOB or Sprite can be whizzing around the screen INDEPENDENT OF THE AMOS CODE!

Say for example, we have the following code:

```
Rem LOTSA LINES ROUTINE
Screen Open 0,320,200,4,Lowres
Cls 0: Flash off
Do
Ink Rnd(4)
Draw Rnd(320),Rnd(200) To
    Rnd(320),Rnd(200)
Wait Vbl
Loop
```

I'll just quickly go through the above bit of code:

Line 1 opens a 4 colour screen that's 320 pixels by 200 pixels and set to lowres. Line 2 clears the screen and switches out the irritating flash. Lines 3 to 7 set up an endless loop to draw a random line from (X1,Y1) to (X2,Y2). The Wait Vbl is used just to slow things down a bit.

Let's try a little AMAL

magic. Add these lines to the beginning of the program so that the entire listing becomes:

```
Screen Open 0,320,200,4,Lowres
Cls 0 : Ink 3
Bar 0,0 To 20,20
Get Bob 1,0,0 To 20,20
Bob 2,100,70,1
A$="A: Move 100,0,50; Move
    0,100,50; Move -100,0,50; Move
    0,-100,50; J A;"
Channel 0 To Bob 2
Amal 0,A$
Amal On
Do
Ink Rnd(4)
Draw Rnd(320),Rnd(200) To
    Rnd(320),Rnd(200)
Wait Vbl
Loop
```

Run this and see how our program is able to keep a block moving while drawing lines in the main program. This is what AMAL is all about. Of course, AMAL is more useful than just moving blocks around, the potential is great for game writers and the like. There is no reason why most games cannot be written 90% in AMAL even before touching AMOS code.

So from the beginning ... Let's create an AMAL program from scratch. We'll open a screen, draw some junk and grab it as a BOB:

- 1) Screen Open 0,320,200,4,Lowres
- 2) Cls 0: Bar 0,0 To 20,20
- 3) Get Bob 1,0,0 To 20,20
- 4) Cls 0: Bob 5,160,100,1

Next we define our AMAL program into a string which will be A\$:

- 5) A\$="Move 100,0,50;"

This is a very simple AMAL program, one line in fact. All this does is to move an object 100 pixels across and 0 pixels down at a rate of 50. A rate of 100 would be twice as slow while 25 would be twice as fast. Now we have to set up an AMAL channel and say which of the 15 channels controls what sort of object. We use the command:

- 6) Channel 2 to Bob 5

We are going to use the AMAL channel 2 to control Bob 5. That's fine, but where does channel 2 get its instructions from?:

- 7) Amal 2,A\$

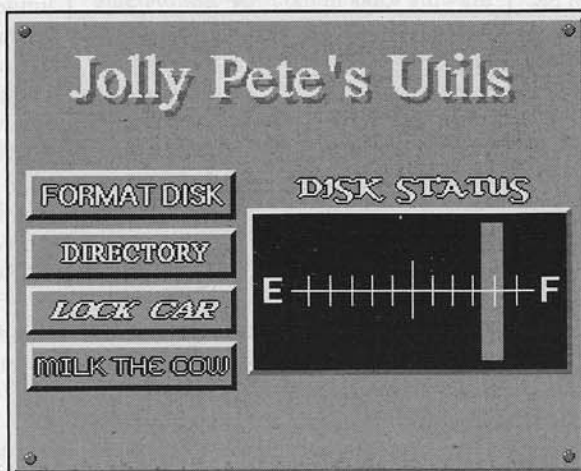
With the above command we tell channel 2 that we want to use the program instructions that are stored in the string A\$. All that's left is to turn on the AMAL channel and to keep AMOS alive with an endless loop:

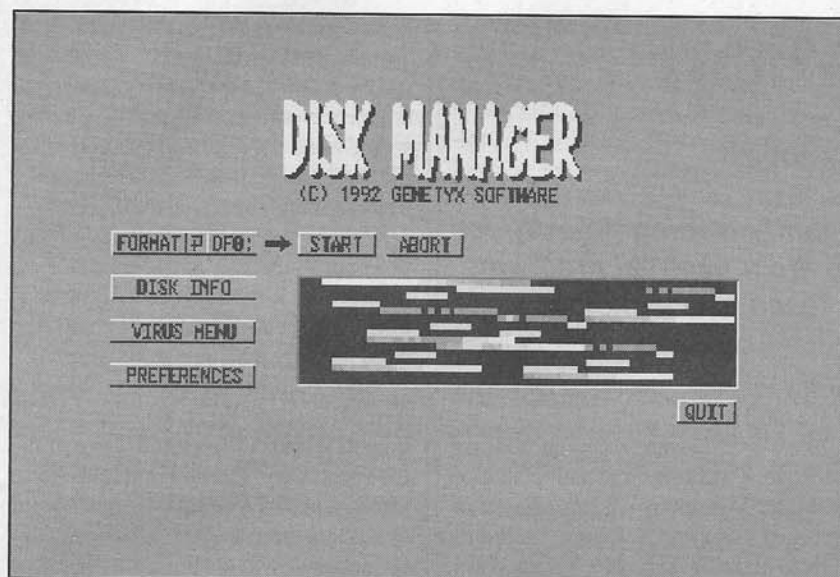
- 8) Amal On 2
- 9) Do
- 10) Loop

Run the program and you will see a little white square Move 100 pixels across the screen. While this may seem either incredible or pointless to you, it's a start. Let's get a little trickier. Replace line 5 with:

```
5) A$="A: Move 100,0,50;
    Move -100,0,50;
    Jump A;"
```

In the above line, we set up the label A. This MUST be a capital A. Lower case letters are not recognised by the AMAL system. Labels (like in





AMOS code) are defined by the colon (:). Next, we issue the first command which will move our little square 100 pixels across.

Note here that commands are separated by semicolons (;). Immediately after the move instruction, the next move command is issued. Notice that we use -100 instead of 100. This will move our square back 100 pixels at a rate of 50.

Lastly, we go back to the beginning (to A:) with the Jump command.

We'll leave it at that for the moment. You can replace the existing A\$ with any instructions you like. As I mentioned before, all AMAL commands must have a capital letter, otherwise the AMAL system will ignore any instructions you type. So the following string:

A\$="A: Let X=X+1; Jump A;"

could be abbreviated to:

A\$="A: L X=X+1; J A;"

I'll finish with AMAL this month with this:

Remove line 1. Remove all CIs 0 instructions. Change line 5 with the AMAL string to: A\$="Move 100,100,50;". Change line 6 to: Channel 2 to Screen Offset 0.

News

* AMOS Pro is getting a huge response. I get many calls daily all asking the same thing: Yes, there is an upgrade

to AMOS Pro. It's \$106 plus the front cover of your existing AMOS manual.

Inside you will find a registration card. If you are already a member of the Australian AMOS Club (even if you don't subscribe) then you do not need to send it to the club. If you are not already a member, then send the card to: Australian AMOS Club, PO Box 253, Rydalmere NSW 2116.

Also, many have called asking if you can still use the old compiler and 3D extensions. The answer is NO you can't. Due to the total restructuring of the language tokens, the current extensions do not work with AMOS Professional. Updater disks should be available from the club by the time you read this.

AMOS Club

With newsletter 12 out of the way and 13 coming within two months, I'm still receiving calls and letters from people who say they have not received any since newsletter 8. At the back of that issue were details on subscription. Issues 9,10,11 and 12 are \$12 for the four, and \$12 to subscribe for the next four issues. The club now has over 700 disks in the AMOS PD collection. A catalogue disk is now available. Links are being set up with the new German, Dutch and US clubs, so any disks and programs submitted to the AMOS PD

will be spread overseas. Contact the club on (02) 748 4700.

Missing Persons

Just a quick call to these people; David Sims of Shepparton, Peter Dolan of Roxby Downs, Rod Whiteley of Gladesville, & David Nauenburg of Emu Ridge, plus many more. Where are you all? These people and everyone else, whenever you are changing your address, please let me know. I have a lot of unclaimed newsletters and orders.

Graphical Interfaces

When writing utility programs, or any sort of program that has a graphical interface built into it (e.g. icon boxes with choices), it seems that most people do not spend enough time designing the layouts of their GUI's. Because AMOS is so quick to create with, people tend to develop a habit of designing sloppy interfaces.

Too many programs crop up with bright pink and purple selection screens filled with text in fancy fonts. Try the KISS approach (Keep It Simple, Stupid). Take a look at the two figures. The first is an example of selection interfaces that pop up from time to time. Notice the irregular sized icons and mix of fonts. A professional looking interface will make people take notice of your program and at least consider using it regularly, not just once to see if the program actually works.

The second figure shows a more simple, clear and intelligent requester. It actually looks like a useful utility rather than a piece of modern art. This tip is obviously not just for AMOS programs but any language, CAND0, BLITZ, ASSEMBLER, C and so on. Most languages will give you results quickly, if you want people to actually want to use your software, you have to make it look serious as well. Leave the pretty stuff for games.

In next month's column, we will have a go at the new requester language in AMOS Professional. It's very similar to the AMAL sub-language and we should see some interesting results from it. □

Education

by Stan Nirenberg

Here's a few good reasons to justify owning your Amiga ... education, right? Yes, there are some real programs out there that will actually teach you something.

LOTE

For a long time, I could not figure out what LOTE meant, until one day some one explained it to me. LOTE stands for 'Language Other Than English'. In my time, they used to call it a foreign language, but I guess times have changed and the word foreign in a multicultural society is unexpected. Anyway, this month, we will look at two programs designed to teach a foreign language or LOTE: *Audio Gallery Chinese* and *Linkword Greek*.

Before we go any further, I would like to share with you my philosophy on learning any language. A language is best learnt by doing, ie, by talking and living the language as all people do through their young years. My contention is that if we are thrown into a foreign land we soon learn the new language out of necessity.

Naturally, this is impractical and somewhat harsh for most of us, however, the best way to learn is to speak the language. There is also a need to learn some of the finer points of grammar and so on, and that is where textbooks and the like come in.

Audio Gallery

Audio Gallery Chinese is a large program, comprising seven disks. It is not copy protected and may be installed onto a hard disk using the supplied HDInstaller from the CLI. Ample documentation is provided to take the first time user through all the steps to make the job as painless as possible. The program can be run on any Amiga under Workbench 1.2 and above, and requires a minimum 512K of RAM. Additional Ram and a second floppy disk drive are

highly advisable, although it is easier to use a hard disk.

Two manuals are supplied with the package. The first is a short Installation and User Manual which explains all aspects of using the software, including how to make backup copies of the disks, starting the program and how to operate the software. The second manual is a comprehensive introduction to the Chinese (Mandarin) language and gives a brief history of the language, explains how to write Chinese characters and some notes on pronunciation of Chinese. The rest of the manual takes the user through the vocabulary and language part of the course.

Audio Gallery is aptly described as an Audio/visual Foreign Language Picture Dictionary. Any one of 20 scenes may be selected, ranging from the home environment to shopping and business, in order to build vocabulary. Each scene comprises a number of objects, activi-

ties or concepts individually numbered. The method of learning is to use the mouse pointer to click on each object to enable the computer to say the Chinese word, write the Chinese characters for the object and, if desired, to show the English meaning of the word.

One of the unique features of this program is the use of digitised speech to show the user the correct pronunciation of the word, doing away with the need for a cassette tape or record.

After completing a lesson or at any time afterwards, the student may take a quiz to test his or her knowledge of the vocabulary. This is a multiple choice affair, where the computer says a word at random from the chosen vocabulary set and gives four choices. Again, the emphasis lies on the spoken rather than written word.

In addition, the program can be used as a limited form of English/Chinese and Chinese/English dictionary where individual words can be looked up. I found this somewhat awkward to use because to scroll through the list requires the user to go back to the menu bar to change screens rather than using a standard scroll bar.

Audio Gallery takes a unique approach to the use of computers to teach a foreign language. It emphasizes the spoken language, making good use of the Amiga's sound capabilities to reproduce digitised words spoken by a native Chi-



nese speaker. The vocabulary drills are reinforced with English translations, use of Chinese characters and, most importantly, pictures to help retention. The student may also test his or her progress through the short quizzes provided. Although this program is essentially a vocabulary builder, the accompanying manual sorts out some of the other aspects of learning the language by showing how to use words and build sentences.

Audio Gallery is a good beginners tool to learn a foreign language and is suitable for both school age people and adults. The only aspect missing is conversational practice, and that needs to be obtained from human teachers until artificial intelligence becomes widely available on home computers.

Audio Gallery is distributed by Mallee Public Domain (050 94 6358) and may be purchased through a number of authorised *Audio Gallery* distributors. Currently, the French, German and Spanish versions are available at \$99 each and the Chinese, Russian, Korean and Japanese versions are retailing at \$129. An Italian version of the program will be available in a few months and the company expects to release a more comprehensive CDTV based set of foreign language programmes later in 1993.

Linkword Greek

Linkword Greek takes a totally different approach to the same problem. It is based on a system designed by a Michael Gruneberg to quickly teach any student a vocabulary of about 350 words and basic grammar in 10 hours. It works by associating an English word with another word that sounds like the Greek. An example is the word for duck, which is pronounced "papy" in Greek. The link is to imagine a duck wrapped in "paper".

The package itself comes on one disk, an audio cassette tape and a very thin manual. The manual explains the principle of the Linkword system, how to start and operate the program, and contains a list of the vocabulary taught. The audio cassette is used to show the correct pronunciation of Greek words

and is used only after the words and their associated images are learnt using the computer. The image we are talking about is an image formed in the mind, for no use is made of the Amiga's graphic or sound capabilities. The computer is simply used to display text up on the screen.

The lessons themselves are easy to use by following the instructions on screen. There are 10 sections in the course, with each section being subdivided into a number of lessons. Each lesson teaches five or 10 new words or some aspects of grammar. Each lesson starts off by giving the user a word and asks that an associated image be memorised. After the vocabulary is introduced, the student is quizzed in English and Greek. Interspersed with the vocabulary drills are grammar and sentence building exercises.

*"Available in French, Italian,
Russian, Greek,
Dutch and Portuguese"*

A major weakness of the program is that it does not have any written Greek. At best, it uses an anglicised version of the Greek word, for example, "papy" for duck. Given that the Greek alphabet is different from the Roman, I wonder whether the other languages offered in the series overcome this problem. I suppose that the course is aimed at teaching spoken Greek only.

The *Linkword Language* system is published by Artworx and distributed in Australia by New Image Computer Products (02 725 4460). The course is available in French, Italian, Russian, Greek, Dutch and Portuguese. It is available from the normal software outlets at a recommended retail price of \$49.95 (quite reasonable by today's standards).

Conclusion

Each program offers unique capabilities. The *Audio Gallery* approach is to present a series of scenes and to identify elements of the scene, using the Amiga's sound facilities to teach pronunciation. In addition, an effort is made to show and teach the written form of

the language. The *Linkword* approach is to help learning by associating foreign language words with similar sounding English words. Pronunciation is taken care of with the audio cassette tape, but no attempt is made to show or teach the written form of the language.

As stand alone programs, they both attempt to teach the basics of a foreign language, and I suppose they manage to achieve this. However, in my opinion, courses such as these should form only part of learning another language. There is a need to find a fluent speaker of the target language to be able to practise what is learnt.

Correction

In the November 1992 issue of ACAR, we gave the wrong phone and fax number for the Animation Network, the publishers of *Glowl* and *Green Ship Earth*. The correct numbers are: Phone (03) 525 6614 and Fax (03) 525 6624. Apologies for any inconvenience caused.

Correspondence

We have received more correspondence in the last month or so, which is really great to see. Don't forget, if you want a personal reply, please send a stamped envelope. Please continue to write in with comments and suggestions to me care of ACAR or directly to PO Box 136, Forest Hill, Victoria.

Until next month, please do anything but study! This is what holidays are for.

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You Can CanDo

ARexx Communication Using CanDo

Two applications can easily talk to each other - to swap information, carry out smart-data updating (Hotlinks style), or over two computers for two player games.

Greg Abernethy explains how it's done in his tenth CanDo column.

This month's tutorial will involve designing two identical projects that will communicate with each other using CanDo's ARexx commands. Although the projects have no real practical application on a single Amiga, when two Amigas are linked together via a null modem cable the projects become much more useful. The tutorial will enable you to send messages between the two projects and have the project perform a task such as displaying a directory listing in its document, or copying a file from one location to another.

CanDo's ARexx commands allow you to set up a port for sending and receiving text messages. You create a port to receive messages by using the LISTENTO command and send messages to another ARexx port using the SPEAKTO command. The format for sending a message to an ARexx port is:

```
SpeakTo PortName  
SendMessage "Send Hello",[NORESULTS]
```

PortName is the name of the ARexx port you wish to send a message to. SendMessage will send the message in quotations. Please note that you must prefix the message with a keyword such as Send which matches the MessageToWaitFor text in the ARexx object of the port which is receiving the message. The message that follows the keyword is contained in the variable TheMessage and can be interpreted in the ARexx object's OCCURRED script.

There are several keywords that can be added to the end of the message, e.g.,

NORESULTS or ASYNC, but I will only deal with NORESULTS at this stage. When a message is sent the script halts waiting for a return message from the ARexx port you are speaking to. If no message is returned the script hangs and you have big problems.

By specifying NORESULTS you can send a message and the script will continue executing without waiting for a return message. I have used NORESULTS in this tutorial to save any lock-up problems. If this all seems a bit deep don't worry, as it will be easier to understand after you have completed this tutorial.

We will be creating two almost identical decks, called "Application1" and "Application2". To avoid error messages it is important that you do not try to run either project until both are completed. "Application2" differs only slightly from "Application1" so I will explain how to create "Application1" and then give details on what must be modified in "Application1" to make "Application2".

Creating Application 1

Each application will consist of a small window on the Workbench, that has a field for entering messages to send, and a document for displaying message information from the other application. Clicking on the Window Close Gadget of one application will cause the other application to quit as well. The specifications for "Application1" are;

```
WINDOW NAME      "Application1..."  
WINDOW SPECIFICATIONS
```

```
X POSITION = 10 : Y POSITION = 10  
WIDTH = 300 : HEIGHT = 120  
NUMBER OF COLOURS = 4  
WINDOW DRAG BAR : WINDOW CLOSE  
GADGET : WINDOW FRONT/BACK GADGET  
WINDOW OPTIONS  
THE WINDOW HAS VISIBLE BORDERS  
TRY TO OPEN WINDOW ON WORKBENCH  
CLOSEBUTTON Script  
SpeakTo "Application2"  
SendMessage "Send Quit",NORESULTS  
Quit
```

Explanation

When the user clicks on the CLOSE GADGET to exit the application we need to tell the other application it's time to say goodbye. In this way we avoid any problems with the second application remaining on the Workbench with nobody to talk to.

MESSAGE FIELD SPECIFICATIONS

```
Horizontal = 23 Vertical = 16 Width = 259  
Border = DOUBLEBEVEL  
FieldType = "Text"  
Left Justification  
SELECTED ScriptSet  
Text "Message", ""  
SetObjectState "Message",ON
```

Explanation

This script clears the message field and sets the cursor in the field.

RETURN Script

```
Let Message  
=TrimString(TextFrom("Message"))  
SpeakTo "Application2"  
SendMessage "Send"||Message,NORESULTS
```

Explanation

When the user presses RETURN we trim off any additional spaces, and send the message to the other application. We let the other application worry about interpreting what the message actually contains.

DOCUMENT FOR DISPLAYING MESSAGES

```
DOCUMENT OBJECT NAME "ReceiveDoc"  
DOCUMENT NAME      "Receive"  
DOCUMENT TYPE      Memo Document -  
No Typing  
DOCUMENT ORIGIN    X = 10 : Y = 29  
DOCUMENT SIZE      Width = 281 : Height = 87  
BORDER             Outline  
No scripts  
AREXX OBJECT SPECIFICATIONS
```

```

OBJECT NAME      "Incoming"
MESSAGE TO WAIT FOR  "Send"
Occurred Script
Let Message = UpperCase(TheMessage)
WorkWithDocument "Receive"
If GetWord(Message,1) = "DIR"
    Let dir = GetWord(Message,2)
    SetCurrentDirectory dir
    Clear DOCUMENT
    InsertDirectoryList
Elseif Match(GetWord(Message,1),"EXECUTE","RUN","COPY","
    DELETE", "RENAME","MAKEDIR" <> 0
    Dos "c:\ITrimString(Message)
Elseif GetWord(Message,1) = "NEWCLI"
    Dos "run c:\NewShell CON:10/140/300/80/Application1-Shell"
Elseif GetWord(Message,1) = "QUIT"
    Quit
Else
    Type TheMessage,NEWLINE
EndIf

```

Explanation

This script is the most important script in the application as it interprets the messages received through the ARexx port that have a prefix of "SEND". When the message is received, we uppercase the message to make it easier to match with our

variables. If the first word is "DIR" we set the current directory to the location specified in the message.

We clear the Receive document and display the directory listing. The next option uses the Match function to determine if the first word of the message is a DOS command that matches one of the options. If there is a match the function Match will return a number greater than zero, and then we can carry out the DOS instruction the user has sent in the message. For example, the user may type into the field "copy s:startup-sequence to ram:".

The script interprets the message and matches the COPY instruction. The message is then added to CanDo's DOS command and the following instruction is carried out by CanDo.

Dos "c:copy s:startup-sequence to ram:"

If the command is NEWCLI we open a new Shell window in the bottom part of the screen. If the command is QUIT we tell the application to quit. If the message has none of the above commands we simply type the message sent into the Receive document.

CARD SPECIFICATIONS

CARD NAME "Application1"

AFTERSTARTUP SCRIPT

ListenTo "Application1"

Dos "run c:deckrunner [Location of Application2]/App2Deck"

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Explanation

I left the Card details to last to prevent any error messages appearing if it was accidentally tested. Call the Card "Application1". The AfterStartUp script sets up the Arexx port we will use to listen for messages from our other application. Then we load the other application. Use the Dos command and specify the exact location of Application2. I called my Decks App1Deck and App2Deck and had them in the same directory location.

That is all that is required to complete the first ARExx application. Save the first application.

Creating Application 2

To create the second application proceed as follows;

- 1) Load the first application into CanDo.
- 2) Edit the AfterStartUp script to read;
"ListenTo Application2"
Delete the rest of the script.
- 3) Rename all references to "Application1" as "Application2"
- 4) Save this deck as "App2Deck" or whatever you specified as the deck to load in the AfterStartUp script of the first application.

The second application is now complete and you are ready

to test your Arexx applications. Make sure both decks have been saved correctly. Load the first deck and the second deck should load and appear next to the first deck. Click in the field of the first deck and type a message.

Press RETURN and you should see the message appear in the document of the other application. Next, try sending a message to copy a file from one location to another and then ask the other application for a directory listing of the location where the file was copied to see if it was actually copied.

If all is well everything should be working correctly. If not, check your scripts thoroughly for errors. Although this tutorial doesn't really seem very useful, if you were linked to another computer and were passing messages it could become very useful indeed. I have only touched lightly on how to use the Arexx ports. If anybody develops a useful application from this tutorial, please write and let me know as I would be very interested.

Special note for users of CanDo V1.02

I am sorry for not catering for users of CanDo V1.02 or earlier. I have received many letters from CanDoers using the version of CanDo from a CoverDisk. You will be happy to know that this month's tutorial can be designed in CanDo V1.02 with one minor change. In the ARExx Object script the

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following line is displayed;

```
Elseif  
Match(GetWord(Message,1),"EXECUTE","RUN","COPY","DELETE",  
"RENAME","MAKEDIR") < 0
```

To make the script work in V1.02 you will need to examine each word separately. The script change is as follows;

```
Elseif GetWord(Message,1) = "EXECUTE"  
  Dos "c:" || TrimString(Message)  
Elseif GetWord(Message,1) = "RUN"  
  Dos "c:" || TrimString(Message)  
Elseif GetWord(Message,1) = "COPY"  
  Dos "c:" || TrimString(Message)  
Elseif GetWord(Message,1) = "DELETE"  
  Dos "c:" || TrimString(Message)  
Elseif GetWord(Message,1) = "RENAME"  
  Dos "c:" || TrimString(Message)  
Elseif GetWord(Message,1) = "MAKEDIR"  
  Dos "c:" || TrimString(Message)
```

It can be seen from this script how much coding can be saved by using the commands available in later versions of CanDo.Can.

Do Application hard disk installation tip

I have found that recently there is a greater need to have

applications hard-drive installable, especially with the release of the Amiga 600HD. I have a method of making my applications hard-drive installable. When I have completed and fully tested an application I save a completed version of the application. Then I edit the BeforeAttachment Script of the application so that when the program loads, it can find the location of all its associated files without the need to add an assignment to the startup-sequence. The command is;

```
Dos "c:assign [Program assignment];" || TheOriginDirectory  
e.g. "c:assign MyGame;" || TheOriginDirectory
```

I save this with a ".fin" suffix to distinguish it from the other application. I do this because I can't load the ".fin" application into CanDo as TheOriginDirectory is different when running in CanDo. If I try to load it I get error messages saying CanDo can't find any of the files I am referencing in my application.

I then place my application and all its associated picture, brush, sound or anim files in that drawer in their correct sub-directories. The drawer can then be dragged onto a hard-drive and started straight away, without the need to edit the startup-sequence and reboot.

That's all for this month. Have fun with the Arexx application. □

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Five disks in total, including three disks of Adobe Type 1 FONTS, one disk of Structured CLIP-ART, and one disk of New Drivers and Utilities. (Material sourced direct from U.S.A.)

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Several playable levels from the latest installment of the fun packed Lemmings game. Version II includes lots of new Lemming actions including an archer, balloonist and stacker. Guaranteed hours of fun! One disk.

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Phil Campbell's Amiga Entertainment

**All the latest news and views from the world of
entertainment**

Happy New Year!

Yep, it's a happy new year from all of us here at the Entertainment end of the ACAR. If you scored a new Amiga for Christmas, congratulations - you've come to the right place to find out how to have some fun with your new gear. This month, you'll find a huge Adventurers' Realm section, with a full listing of "Clever Contacts" - smart types who have cracked all the toughest Adventure games. And they're happy to help you do the same - absolutely free, gratis, and for nothing.

Speaking of free, you'll also find a review of the latest in Public Domain Games. If you've blown all your cash

over Christmas, here's the perfect way to grab some games and not over-extend your Bankcard debts. So read on, and stick with us for another year, as we continue to give you more quality words for your dollar than any other computer mag in the world!

New Releases

Here are some new titles to watch for in the shops. *TV Sports - Baseball* from Mindscape should be out now, together with *Battle Toads* from The Software Toolworks and *Centrebases* from Rainbow Arts. *Paperboy 2* has also just hit the streets - watch for a full

review next issue. Then there's *Chaos Engine*, and the long awaited Amiga version of *Wing Commander* from Origin. In our next issue you'll also find a full rundown of *The Grandslam Collection* - it's available for the Amiga and the C64. Released this month, you'll find *The Cartoons*, from Loriciel, *Hostile Breed*, *Jekyl and Hyde* and *Super Barbarian* from Titus, *Transantarctica* from Silmarils, and *Realms of Darkness* from Grandslam.

Australian Realms Adventure Magazine

What do you think we are? Crazy or something? Nick Leaning, editor of the new Australian Realms adventure gaming magazine, wants us to give them a free plug here in the news pages. No way! But if you want to know more, contact Nick at 70 King William St, Bayswater WA 6054.

Computer Flight Sim Journal Takes Off

Hooked on flight sims? Then here's yet another specialist journal that might be right up your alley. The *Computer Flight Sim Journal* is a well produced 12 page newsletter with reviews of the latest sims, and feature stories on real life aircraft. Looks impressive. For more info, contact the editor, Albert Ricardo, at PO Box 83, Glenhuntly, Vic 3163.

ACAR Hints and Tips Disks Running Hot

We're shipping out dozens of ACAR Hint Disks every month - so why not order yours? If you're stuck in a game, if you're frustrated, if you're jaded and worn, ACAR Entertainment Hints Disks 1 and 2 have just the answers you need. They're both packed with handy hints and tips for all the most popular Amiga games. *The Secret of Monkey Island* is revealed, we'll give you all the training you need to win at *4D Sports Boxing*, we'll help you save the day at *Austerlitz* - and *Leisure Suit Larry* will finally get his girl.

Mindscape January Mystery Competition

Something different this month - instead of us telling you what the prize is, you've got to tell us! Simply unjumble the letters below to spell the title of our mystery prize. One hint - it's a top line game from Mindscape. Send your entries on the back of an envelope to Phil Campbell, PO Box 23 Maclean NSW 2463.

There are four copies to be won - so go for it!

R	Y	B
P	2	P
A	O	E

So how do you get it? Just follow these simple instructions ... Just mail a stamped, self addressed envelope, a blank Amiga disk for each disk required, and a cheque or postal order for \$5.00 per disk to:

Phil Campbell, PO Box 23 Maclean NSW 2463. You'll have your disk back packed full of hints in a flash!

Mindscape November Competition Winners

Congratulations to the following four readers, each of whom have scored themselves a copy of Mindscape's excellent *Crazy Cars III*.

Aaron Sanderson, of Bathurst NSW, Robert Davidson, Greensborough Vic, D. Richardson, of Barrack Hts, NSW,

Scott Trenholme, of Thirroul, NSW.

By the way, the top racing game overall in our informal survey was *Lotus Turbo II*. Let's hope *Crazy Cars III* gives it a good run for its money! Thanks to Mindscape once again for their monthly prizes.

Entertainment Letters

Entertainment Mailbox

Send your entertainment letters, news and views to the Entertainment Mailbox, PO Box 23 Maclean NSW 2463. We're always happy to hear from you, but please keep your letters brief and to the point!

Where oh Where?

Dear Phil, Whereabouts in Australia can I purchase *Golf Construction Set*, *Diplomacy* and *Game, Set & Match*? I have searched high and low for these programs, but to no avail. Can you please help me.

K. Swansson
Gladstone, Qld

Ed: Sorry, I haven't got a clue! Can any readers help?

Another Fruitless Quest

Dear Phil, I would like to purchase the game of *Championship Loderunner* but have been unable to purchase it from anywhere for my Amiga. Where can I buy this game in Australia?

Bouhabib & Associates
Merrylands, NSW

Ed: Boy, another golden oldie! Your best bet is another reader who'll part with their own copy. Maybe we'll hear from someone. Otherwise, there are plenty of *Loderunner* clones available in the public domain. Contact Tim Strachan on (02) 959 3692 for more information.

Industry Spies Wrong Again!

Dear Phil, Congratulations to Phil Campbell on his Crystal Ball gazing. Oh, that Santa would be bringing USQ engineering students a CDTV player courseware for Christmas!

The reality is that USQ has produced a short CD simply to learn what is involved in scripting, authoring and producing CD. We hope to start work on a prototype CD with serious courseware

content early 1993 and to trial it on a small sample of students in 1994.

Sorry the reality falls short of Phil's vision. However we do completely endorse his concluding sentence 'CDTV sounds like a top class idea.'

Lesley Richardson
Peter Pemberton
Tom Duncan
Toowoomba, Qld

Ed: Well, as they say in the journo trade, you shouldn't let the truth get in the way of a good story! Seriously though, our inside information at the stage we went to press seemed pretty reliable - and it may simply be that the realities of the original plan just didn't quite eventuate! Bad luck, guys.

Monkey Business

Dear Phil, I am in desperate need of help, because in *Monkey Island II*, I've found the Big Whoop and disappeared down this huge hole and can't get out again I've tried everything, and I've got no matches left. Please help me.

Connor Jolley

Ed: This is another one of those category crossovers that make me so cross.

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Well, a bit irritated, anyway. After all, I was almost sure that *Monkey Island II* was an adventure game, and Mike Spiteri's *Adventurers' Realm* is the perfect place to send questions like this. We'll ask him to look for an answer, and you might see the results in the March edition of the Realm.

Desperate Plight

Dear Phil, Could anyone help me in my desperate plight to complete these games. *Apidya* (level 6 Password), *Pitfighter* and *Beast III*. Most important though is *Chaos Strikes Back*. I'm at battle with what I call the Grey Lord (cloaked) and cannot defeat him. Could someone tell me how to slay this creature, or a cheat mode would be very handy.

Mark Howley
Campbelltown, NSW

Ed: Stay tuned, Mark. Hopefully a loyal reader will come to your assistance in the near future.

Labyrinthine Problems

Dear Phil, On my trusty C64 I am having enormous troubles with *Labrynth*. These are my problems.

1 - Goblin Castle: Cannot get anywhere. What do you do to get through?

2 - Secret Corridor: What do you do here?

Thank you. Your magazine is the greatest.

Cheryl Galpin
Rye, Vic

Ed: Another one that's probably better off in the Realm! But seeing as you said such nice things at the end of your letter, we'll try to find an answer. Stay tuned.

Rugby Ruckus

Dear Phil, I only have one problem. That is with the review of *ET's Rugby League*, you failed to mention that there are a lot of flaws in the game. I am thoroughly disappointed with this game and the magazine. There should be more objective reviews. Other than that it is a great magazine.

Scott Robinson
Bundarra NSW

Ed: Other than that it's a great magazine? Boy, they sound like pretty serious complaints to me! But first, take note of the fact that there's no such thing as an "objective" review. My own experience with footy games has been that passing the ball around the field has been frustrating at best, almost impossible at worst. In the end, I've usually given up in disgust. *ET's Rugby League*, on the other hand, was easy to play. Which to me, meant it was much more fun than most of the others of its ilk. Sorry you're disappointed with the game though - perhaps you had other expectations.

PD Penfriend Wanted

Dear Phil, Having been sent a copy of your magazine, I decided to write with a request for your readers. I require an Australian contact who will contact PD authors on my behalf and exchange software. I guarantee a reply to all.

James Abram
44 Virginia Road
Albington, Wolverhampton
West Midlands WV7 3NP England

A Thankful Reader

Dear Phil, I wish to thank you and ACAR for the recent prizes I have won, namely *Harlequin* and *Paragliding* - a massive \$139.90 worth of software for the paltry sum of \$1.00 for stamps to enter your competition. And let's not forget Mindscape, who supplied the products for the competitions. It's good to see companies support your magazine - it's great business sense.

I would also like to thank ACAR for being the only Australian magazine to support Australian Amiga owners. It is tremendous value and gives great advice and reviews - far better than the foreign magazines that cost an arm and a leg and only review the products that are available in their own countries.

Michael Merritt
Elizabeth Park, SA

Ed: Thanks for the letter, Michael - you're one of only two readers in the history of our Mindscape Competitions to win more than once! Glad you're

enjoying your prizes. Mindscape pours hundreds of dollars worth of prizes into our monthly competitions, so I'm glad they're appreciated. And we're glad you know a good value magazine when it's stuffed under your nose!

Got a Hunch About Hunchback?

Dear Phil, I would like to know if there is an Amiga version of the old C64 game *Hunchback*, and if so, where to get it from. Keep up the good work!

F Bueller
Tathra, NSW

Ed: Sorry, Ferris, no idea. We'll pass on any hot leads from Hunchbacked readers so you'll have something worthwhile to do on your next day off.

Here's Help for Sharon!

Dear Phil, Sharon Morris was asking for help with *Might & Magic II*. Just send a letter to me and I will tell you all you need to know.

Jason Butterworth
5/24 Frencham St
Downer, ACT

Ed: Good one, Jason. Hopefully Sharon will be in touch.

EA Clears up State of Origin

Dear Phil, To clarify points raised in your November news pages, Electronic Arts will be distributing all Origin Software throughout Australia and New Zealand. EA will have a full inventory of all Origin Systems products by December 1, 1992. Also, I would like to make you aware that EA is currently providing all technical and customer support for all Origin Systems products.

Robyn Tunsted
Electronic Arts
Southport, Qld

Ed: Sorry about the mix up Robyn. Our Mindscape friends were optimistic about their future in distributing Origin products, which led to our November statement that they would continue to distributing the Origin line over the next few months. Congratulations on a top acquisition to the EA stable!

ENTERTAINMENT & HINTS & TIPS

Cracked any tough games lately? Got any handy hints or hot tips to pass on to the rest of us? Then drop us a line here at:

ACAR Hints and Tips, c/o Phil Campbell, PO Box 23 Maclean NSW 2463. And remember, if you submit a full game solution suitable for publication, you might even earn some cold, hard cash!

Paul Lawrie has been working hard to come up with the following tips and codes for *Robocod*. Paul also has a hint disk containing 300 hints and tips. If you'd like a copy, send \$2.00 and a stamped, self addressed envelope to Paul Lawrie, PO Box 8253, Allenstown, Rockhampton 4700.

Robocod (Amiga)

While playing, type LITTLE MERMAID (including the space) to make the screen flash. Now press one of these keys for the relevant effect:

- <F> - fly
- <K> - kamakaze
- <M> - map select(level select mode)
- <P> - plane
- <X> - exit
- <F6> - 50Hz
- <F7> - 60Hz
- <RETURN> - infinite shield

When in level select mode you skip to any part of the game. These can be accessed by the following numbers:

- | | |
|--------------------|----------------|
| 01 - Level 1-1 | 26 - Level 7-2 |
| 02 - Level 1-2 | 27 - Level 7-3 |
| 03 - Level 1-3 | 28 - Level 7-4 |
| 04 - Bonus Level 1 | 29 - Level 7-5 |
| 05 - Level 6-1 | 30 - Level 5-1 |
| 06 - Bonus Level 2 | 31 - Level 5-2 |

- | | |
|-------------------------|---------------------|
| 07 - Bonus Level 3 | 32 - Level 5-3 |
| 08 - Level 6-2 | 33 - Level 5-4 |
| 09 - Level 6-3 | 34 - Level 5-5 |
| 10 - Level 1 and 2 Boss | 35 - Level 5-6 |
| 11 - Level 5 and 6 Boss | 36 - Bonus Level 9 |
| 12 - Level 7 and 8 Boss | 37 - Level 5-1 |
| 13 - Level 3-1 | 38 - Bonus Level 10 |
| 14 - Bonus Level 4 | 39 - Level 8 |
| 15 - Level 3-2 | 40 - Bonus Level 11 |
| 16 - Bonus Level 5 | 41 - Level 9-1 |
| 17 - Level 3-3 | 42 - Bonus Level 12 |
| 18 - Level 3-4 | 43 - Bonus Level 13 |
| 19 - Bonus Level 6 | 44 - Bonus Level 14 |
| 20 - Level 4-1 | 45 - Bonus Level 15 |
| 21 - Level 4-2 | 46 - Bonus Level 16 |
| 22 - Bonus Level 7 | 47 - Bonus Level 17 |
| 23 - Bonus Level 8 | 48 - Hard Level |
| 24 - Level 4-3 | 49 - Level 9-2 |
| 25 - Level 7-1 | 50 - End of Game |

Rodrigo the Anonymous sent the following two tips for budding rev-heads.

Lotus II

Infinite time : Password : Turpentine
Sub Game : Password:Dux

Nitro

Type in your name as MAJ. You will be given \$50.00 and 5000 fuel.
Thanks Rod.

Now Ben Ashby has some hints for a few old favourites.

IMPOSSAMOLE: Type these words in for different effects. HEINZ, ANNFRANK, LUMBAJAK, OOCHOUGH, COMMANDO, JUGGLERS.AMC: Here are some of the many level codes for this hot game. Even though it is old doesn't mean it can get any worse.

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AUSSIE MADE MATE!

Hall of Fame

A shock inclusion in this months Hall of Fame ... the long standing high score for *Space Ace* of 22,140 by Neville Clarke has finally been beaten by a mysterious gamer known only as Stare Bear. Who is this mysterious stranger? I hope to find out soon.

Sid Vicious has made a comeback with two very high scores for different games. Glad to see you're out of jail mate. Another person to make a comeback is Ronny Biggs. If anybody out there can tell me which band these people are from, I'd be glad to hear from you.

Send your high scores to Juris Graney, 41 Cameron St, Maclean, NSW, 2463. Please mark clearly whether your scores are for C64 or Amiga. And remember - NO CHEAT MODES ALLOWED!

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ACTION FIGHTER 132,530 Robbie Baker
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BEYOND ICE PAL. 67,626 (c) Chris Turnadge
BIO CHALLENGE 29,000 Aaron Sanderson
BLOCKOUT 85,281 Stephen Lark
BOMB JACK 468,120 Kathy Butters
BUBBLE + 276,850 (c) Chris Toyne
BUBBLE BOBBLE 2,960,980 Kristy Cameron
BUDOKAN 6:08min (c) Mark Sorensen
BUGGY BOY 113,260 Powerhouse Nick
CAR-VUP 484,122 Happy Hacker
CHASE HQ 7,426,060 Powerhouse Nick
CONT. CIRCUS 4,815,390 Dolly
CRAZY CARS 93,622,590(c) Robert Cameron
CRAZY CARS CHALL 3,000,000,000!! Michael Summers
CRYSTAL HAMMER 6,787,921(c) Kristy Cameron
CYBERBALL 475,000 David Marsh
DENARIS 53,900 Peter Evans
DIABLO 1,490 Timothy Johnson
DRAGON NINJA 246,400 Rod Matthews
DOUBLE DRAGON 962,355 Robert Cameron
DOUBLE DRAGON II 201,330(c) The Warrior
EDD THE DUCK 5,820 Andrew

Gormly

ELIMINATOR 246,570 Greg Munro
EMERALD MINE Level 23 (d) Timothy Johnson
FIRE AND ICE 376,750 THE PROPHET
FLOOD 13,135 Matthew Beetson
GEE BEE AIR RALLY 308,726 Robert Irwin
GIANA SISTERS 112,480 Adam Annen
GODS 4,244,397 Adam Annen
GOLDEN AXE 496.2(c) Chris McInally
HYBRIS 2,934,425 Andy Tyson
IK+ 1,039,200(c) Powerhouse Nick
IMPOSSIBLE MISSION 66,380 Diane Urwin
IMPOSSIBLE MISSION II 67,900(c) David Dilkes
INDIANA JONES L.C. completed Phillip Nicoll
INDIANAPOLIS 500 37.00sec/243.24mph Ian Klaus
INERTIA DRIVE 33,600(c) A. Gormly
KARATE KID II 54,000 Michael Summers
KILLING GAME SHOW 699,270 David Thompson
KLAX 4,396,040 Happy Hacker
LEATHERNECK 86,500 Shane Crossland
LIVE AND LET DIE 96,520 Merekee
Beaton
MAJOR MOTION 50,658 Owen Webster
MENACE 996,481 Kamikaze Andy
MIDNIGHT RESISTANCE 332,610 Chris McInally
MINDWALKER 306,214 P Schumacher
MOUSETRAP 71,977 Davo Rich
NARC 180,800 Damien Carsburg
NECRONOM 1,181,360 - Johnny Rotten
NINJA MISSION 66,528 Chris Toyne
NITRO 283,000 (c) Brett Bannerman
NUCLEAR WAR 990 (c) Paul Rucci
N. Z. STORY 546,695 Embah

Beaton

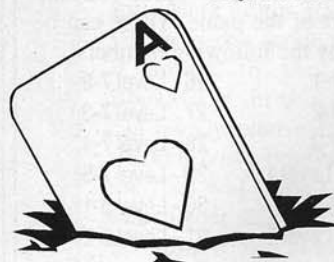
ONSLAUGHT 39,918 Andrew Gormly
OPERATION THUNDERBOLT 166,400 Andrew Gormly
OPERATION WOLF 355,680 Graham Wilson
OUTRUN 32,150,464(c) Darrin Smith
OFFSHORE WARRIOR 626,345 Jacob Booth
PACMANIA 3,250,140(c) Amos Burbidge
PINBALL DREAMS 398,977,570 Paul Rucci
PINBALL MAGIC 423,560 Paul Rucci
PINBALL WIZARD 3,893,570 Stephen Hose
PIONEER PLAGUE 35,412 Keir Sooby
PLUTOS 299,000 Davo
POPULOUS 347,990 Michael Summers
PORTS OF CALL \$3,654,944,000 Status 1033 Troy Clarke
POW 612,865 David Thompson
RAINBOW ISLANDS 9,999,999 (c) Timothy Johnson
RAMPAGE 212,912 Graham Wilson
RICK DANGEROUS II 68,450 Scott Southurst
ROBOCOP 395,760 (c) Paul Rucci
ROTOX 183,050(c) Faye Doherty
SIDEWINDER 904,350 Sharon Elsley-Eades
SILKWORM (Heli) 9,963,360 (c) Robert Cameron
SILKWORM (Jeep) 2,369,571 Kristy Cameron
SKWEEK 3,375,400 Faye Doherty
ROTOX 183,050(c) Faye Doherty
SPACE ACE 24,680 (c) Stare Bear
SPACE HARRIER 210,855,250 Maverick
SPEEDBALL 17,650 Amos Burbidge
SPEEDBALL 2 394-2 Matt James
STARWARS 5,722,822 wave 33 C. Mings
STRIDER 175,350 Neil Young
SUPER CARS 27 races (c) L. Hetherington
SUPER HANG-ON 25,042,850 David Worthly
SUPER OFF-ROAD \$4,930,000 Greg Hingerty
SUPER WONDER-BOY 208,900 Adam Annen
SUPER SPACE INVADERS 814,355 Andrew Hay
SWIV(HELI) 2,108,210(c) R. Adams
SWIV (JEEP) 2,417,330 Steven McKinlay
SWORD OF SODAN 403,500 Steven Begley
TEEN.M.N.TURTLES 546,600(c) James Leeken
TEENAGE QUEEN - \$3900 (c) Ronald Biggs
TERMINATOR II 254,960 (c) Paul Rucci
TEST DRIVE 169,437(c) S. Demchinsky
TEST DRIVE 2 659,992 Michael Summers
TETRIS 39,586 (774 Lines) Christine Lewis
TETRIS Level 232 Stephen Lark
THE RUNNING MAN 123,500 Daniel Rucci
THUNDERBLADE 2,034,040 De Moose
THUNDERCATS 522,300 Scott

Southurst

TOWER OF BABEL 25,934 (c) Stephen Lark
TURBO OUTRUN 100,260,819 Matthew Mantle
TURRICAN 1,735,100 (c) Adrian Jenkin
TURRICAN II 3,307,700 (c) Matthew Beetson
TV-SPORTS BASKETBALL 192-39 Matt James
TV-SPORTS FOOTBALL 189-0 David McKinney
TWINWORLD 24,640 Carol Love
TYPHOON 54,255 Owen Webster
U.N. SQUADRON 762,255 (c) Tony Stojanouski
VIDEO KID 371,050 Andrew Hay
VIRUS 22,637 Jason Dykstra
WHIRLIGIG 28,210 Nathan Allen
WINGS 432 kills Robert Irwin
WINGS OF DEATH 56,670 Robert Irwin
WONDER BOY 381,186,042(c) Kristy Cameron
XENON II 1,107,280(c) Mark Porta
ZOOM 67,051 Steve Jones
COMMODORE 64
ALLEY CAT 1,101,150 Simon Mitchell
ALTERED BEAST 312,400 Rick Zanker
ARKANOID 930,340 Joseph Wright
ARKANOID 2 756,250 Mean Max
BATMAN 521,360 The Joker
BATMAN-THE MOVIE 1,087,080 Michael Bradley
BANGKOK KNIGHTS 39,600 Josh Smith
BOMB JACK 521,820 Adam Wade
BUBBLE BOBBLE 6,963,930 (c) David Gavrilovic
BUGGY BOY 182,790 P Murray
CABAL 194,450 The Joker
CHASE HQ 12,436,129(c) David "Moir Jane" Sanna
CHASE HQ II 29,100 (C) Adam Wade
CREATURES 10,123 Adam Malinowski
DAVID'S MID MAGIC 669,150 The Joker
DOUBLE DRAGON 35,820 (c) Atul Prasad
DOUBLE DRAGON II 255,190 Nick van Heeswyk
DRAGON BREED 496,870 Happy Hacker
FAST BREAK 136 to 9 Chris Byrne
GHOSTS AND GOBLINS 325,600 Adam Wade
GHOULS AND GHOSTS 558,110 (c) Adam Wade
GIANA SISTERS 287,100(c) Adam Wade
GRYZOR 228,600 Mean Max
H. MARADONA Level M N. van Heeswyk

HAWKEYE 260,400 Matthew Inman
IKARI WARRIORS 308,300 Jason Aldridge
INT. KARATE 139,300 Paul Millward
LAST NINJA II 17m44s (c) David Carter
MIDNIGHT RESISTANCE 28,540 (c) Dennis Pike
MEGA GIANNA SISTERS 328,746 Mean Max
NEMESIS 1,633,200 Adam Wade
OPERATION THUNDERBOLT 78,600 Adam Annen
OPERATION WOLF 776,350 Winston Diaz
OUTRUN 16,952,780(c) Adam Wade
PARADROID 303,125 Matthew Inman
PAPERBOY 103,100(c) John Nunes
PIRATES 143/100 D Steward
POWERDRIFT 872,940(c) Adam Annen
QUE-DEX 639 Chris Byrne
R-TYPE 1,890,210 Atul Prasad
RAINBOW ISLANDS 7,653,241 Adam Malinowski
RAMPAGE 180,000 Adam Wade
RICK DANGEROUS 66,280 Adam Annen
ROBOCOP 237,170(c) Adam Wade
ROLLING THUNDER 417,280 Adam Wade
SALAMANDER 235,300 Paul Millward
SHINOBI 664,372(c) Winston Diaz
SILKWORM (Heli) 965,200 (c) Adam Blanch
SILKWORM (Jeep) 244,500 (c) Adam Blanch
SKATE OR DIE Freestyle 22,850 The Joker
STREET FIGHTER(c) 168,900 Adam Wade
SUPER CYCLE 239,840 (c) Adam Annen
TARGET RENEGADE 330,450 C. Byrne (clocked)
TEST DRIVE 36,144(c) John Nunes
TEST DRIVE II 249,543 (c) A Batroc
TETRIS 35,335 (459 lines) Adam Annen
THE TRAIN 9,500(c) Adam Annen
THUNDERBLADE 1,851,040 Matthew Inman
THUNDERCATS 269,500 Joseph Wright
T.M.N TURTLES 4397 Adam Annen
TRAZ 54,560 Dave and Sue Upton
TURRICAN 1,239,040 Adam Malinowski
UNTOUCHABLES 70,230 Simon Watford
WIZBALL 999,999 (c) G. Beaven
WONDERBOY 4,775,470 (c) Lee Walters

Scores followed by (c) indicate that the game has been completed.



#1 - AND DRIVE-ING HARD TO STAY THAT WAY!

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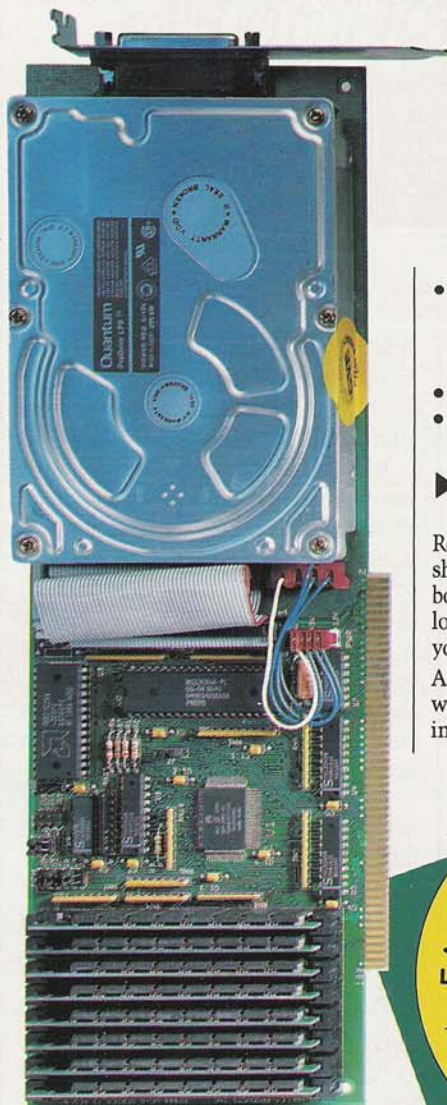
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MICHAEL SPITERI'S

Adventurer's Realm

What can adventurers look forward to in 1993? Well, adventure games are still as popular as ever with new titles being released by the truckload ... well almost. Take Sierra for example, they have just released chapter six in the *Kings Quest* series, and *Space Quest V: The Next Mutation* is due out soon, alongside *Quest for Glory III: Wages of War*, and *Eco Quest II: Lost Secret of the Rainforest*. Origin plans to release chapter 7, 7 1/2, and 8 of its *Ultima* saga, and Interplay have *Lord of the Rings II: The Two Towers* on their books for this year. Yes folks, like last year, 1993 is going to be another year of the sequels. Doesn't anyone have any original ideas out there?

Well, nothing is as original as the original Adventurers' Realm (sounds like a liquor commercial, doesn't it), and this month, as promised, we have the complete updated listing of Clever Contacts for 1993, featuring over sixty adventure helpers (over 20 more than last year!) from across the nation. In the

Free Hint sheets department we have dropped a lot of the oldies in favour of some hot new ones ... read on for more information!

Basically, the same service still stands. If you are stuck in an adventure game you have the choice of either contacting a clever contact, ordering your free hint sheet, or sending in your problem to me here at the helm of the Realm. If I can't help, then your problem will be displayed here for all eyes to see. Donations of hints and tips are always graciously accepted, as are your views and opinions on any adventure topic.

For adventure game problems, donations of hints, views and news, and free hint sheets, write to: Adventurers' Realm, 12 Bridle Place, Pakenham, Vic 3810. For roleplaying game queries (and not hint sheets) you can write to Kamikaze Andy in his *Dungeon: Realm's* RPG Dungeon, PO Box 1083, Canning Vale, WA 6155.

Always enclose a stamped addressed envelope when writing to the Realm.

Free Hint Sheets

Kerrie, the Lady of the Realm, is preparing herself for the massive onslaught of mail as she announces the release of many new, new, new free hint sheets. The deal is the same, just list up to four of the hint sheets you would like from the list below and enclose a stamped addressed envelope and send it to: Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810.

The new hint sheets are: *Monkey Island I*, *Monkey Island 2*, *Space Quest III*, *Space Quest IV*, *Wonderland*, *Lei-*

Help, Help & more Help or the Smart Adventurers Dept.

Ian Myers of Charnwood in ACT writes ... "I am writing in response to the plea for help with *Legend of the Sword* from Chris Younger in the October 1992 ACAR. I can well sympathise with Chris, since I also spent two years off and on trying to crack this very frustrating game (see my plea in Jan 1991 ACAR). At last in cooperation with Kathy Kuprasek, and a friend in England, success came my way. The answers to Chris's particular questions: You can ignore the blunt knife and giant worm. Enter the worm's tunnel via the shack, find the gold coin, exit on the river bank, follow tracks to find a rusty snare, use it to trap the stag. Be polite and shake hands with the hunter to get his silver ring. Use it under the keep. Give him the snare to get some food and advice. Ignore his shack. Shout Mustalopiso to kill the mud beasts."

Stuart George writes with help for Kristian Anderson (who was stuck in *Neuromancer*) ... "To get comlink 5.0 you need to access a EastSeaBod." In the game *Magic Candle I* ... "The best way to raise your charisma is to visit Aksimento in Lymeric."

sure Suit Larry III, *Champions of Krynn*, *Kings Quest V*, and Clever Contacts Complete Listing 1993.

These hint sheets are still available: *Pool of Radiance*, *Zak McKracken*, *Maniac Mansion*, *Zork I*, *Zork 2*, *Zork 3*, *Bards Tale I*, *Bards Tale II*, *Bards Tale III*, *Hitchhikers' Guide to the Galaxy*, *Guild of Thieves*, *Jinxter*, *Pawn*, *Corruption*, *Faery Tale*.

New hint sheets courtesy of Kamikaze Andy, Stuart George, and Matthew Armstrong.

Problems, Problems & more Problems or the Troubled Adventurers Dept.

Jen Howell of Woodberry, NSW is puzzled aboard a liner in *Cruise for a Corpse*. She has been to the kitchen, used the hoist to the hold and got the crowbar and reel of film, but that's about it. Does anyone have any hints for *Cruise for a Corpse* in which they can help out? (PS: Jen, I think there are one or two Clever Contacts available since you last looked).

Ryan Jones from the sunny Gold Coast in Queensland writes in with problems in two games. First up, in *Cadaver* he is on Level 4 and requires two more gold keys to leave. He has one from the rolling ball, and another from the gamblers den, but the whereabouts of the other two have him stumped. Then, in *Shadowlands* Ryan cannot seem to solve the puzzle on Level 6, which goes something like "I am 1 but act as though I were 6." Yes ... right.

Geoffrey Boddington of Jindalee in Queensland is currently stuck in *Camelot*, in particular, the desert after Gaza. Any takers?

Brett Higgins pops up again with a problem in *Dark Side*. He simply wants to know where he can find the yellow telepod crystal. However, this time he is getting pretty desperate!

This section is never complete without problems from Stuart George from Springvale in Victoria. In *Timequest*, how does he get the cloak from the learned man in Rome at the beginning of time, and how does he get the girl to hide in Baghdad, and also how does he know which woman is having an affair with the vizier also in Baghdad (!!!!!). Then, in *Codename: Iceman*, what is the right text to enter to get the vehicle to the oil rig to work. (Mike's tip: Have you used the washer and nut on the vehicle yet?).

Fantastic Hint Books

Of course they are fantastic - I wrote them, with the help of hundreds of Realm readers. The second Adventurers' Realm Hint Book is available at newsagents all over the nation at the reasonable price of \$10. For your cash you get detailed cryptic hints for over 25 top notch adventure games, as well as pages and pages of mapping sheets. The book is A4 size, and features a big green dragon on the cover. By the way, its title is: *Computer Adventure Games - Hints & Tips*. For information, call Darrien on (02) 398 5111.

If there is a second book, then there must have been a first. You can order the first book directly from the Realm. Send a cheque for \$9 to Realm's First Hint Book, 12 Bridle Place, Pakenham, Vic 3810. For your money you'll receive a book containing hints for over 40 adventure games! But hurry, because we only have about fifteen copies left!

Adventure Swap Shop

This is the part of the Realm where you can swap your old games for other old games. Just send in your list and I'll list them here, just like the following ...

Andre Thomas of you know where you are ... we cannot advertise your games to swap, because obviously at \$5 a shot your games are not originals in original packing. Please change your ways! Note: Adventurers' Realm will NOT be an avenue for swapping and selling pirated games! (Andre, if your games are genuine and you are being very generous, then I'll retract the above comments!)

Nigel Cayzer of 39 Bowtell Avenue, Grafton, NSW 2460 has *Kings Quest V* and *Bards Tale II*, and would like either of the Indy adventure games, or any other decent games.

Brett Higgins of RSD 560, Cuprona, Tas 7316 has *Black Crypt*, *Larry III*, *Wings*, *Dragon Lair: Escape from Singes Castle*, and would swap them for *Eye of the Beholder II*, *Knightmare*, *Monkey Island I or II*, or *Captive*. Either contact him at the above address, or ring him on (004) 375 338.

Realm's Adventure Chat

Stuart George brings news of good tidings for C64 adventure and roleplaying gamers. He writes ... "The Gamesman at 491 Forest Road, Penhurst, NSW 2222 (02) 580 9888 are offering *Curse of Azure Bonds*, *Dragons of Flame*, *Death Knight of Krynn*, *Gateway to the Savage Frontier*, *Neuromancer*, *NeverEnding Story II*, *Pirates*, *Secret of Silver Blades*, and *Zak McKracken*, all for around \$30 and \$50 each. You should also check out the local Myer shops as they have the Electronic Arts Right Price games, and if I'm not mistaken I saw the *Magic Candle I* and the *Keys of Marmon* both for \$29.95 each. Both were also advertised by Logico in the November 1992 issue on page 17. In the October issue Logico also advertised the Wizardry series 1 - 5 as well as *Bad Blood* and *Ultima 6* on page 21."

Mike: Thanks for that information Stuart. There are also a handful of retailers at the monthly computer swap meet held the first Sunday of each month at the Malvern Town Hall in Victoria who stock a number of discounted C64 and Amiga titles.

Andrew McCulloch of 33 Carvie Street, Hillman, WA 6168 would like to volunteer his services as a Clever Contact. It'll be made official once you send me a list of games you can help out in, Andrew.

Brett Higgins from Tassie writes ... "I would like to thank D. J. Clark and Peter Georges for their help with the game *The Immortal* way back in June. If you are reading this, guys, how do I defeat the dragon? Once my blink spells and five protections are used up I get fried! The statue spells seem to be the clue but I still die when they wear off."

Mike: I thought I'd print this extract from a troubled adventurer who has trouble staying immortal in *The Immortal*, just to give a pat on the back to all our Smart Adventurers who write in with solutions. Thanks, people!

Clever Contacts Complete Updated Listing

As promised, here is the complete updated list of Clever Contacts divided by state. This list is also available on a hint sheet (see Free Hint Sheets). Remember, whenever you use the services of a Clever Contact, always enclose a stamped addressed envelope and any donations towards copying costs. Never ring a Clever Contact unless it specifies clearly in their listing. Finally, a great big thanks to all the Clever Contacts whose voluntary work is a saviour to adventurers all over the nation.

New South Wales

Mark Harris from Bondi Junction can be contacted on (02) 369 4920 between 8am and 11am during the day and between 7.30pm and 10.30pm during the evening. No calls on weekends, please. Mark can offer help in a huge range of adventure and roleplaying games.

Juris Graney of 41 Cameron St, Maclean 2463. Help Offered: Various games for Amiga & C64.

Robert McGeche of Exmouth Road, Dapto 2530. Help Offered: Sierra games, *Maniac Mansion*, *Zak*, *Future Wars*, *Gold Rush*, *Operation Stealth*, *Colonels Bequest*.

Peter Chirn of 37 Austral Ave, Westmead, 2145 (email pec@newt.phys.unsw.edu.au). Help offered: *Ultima IV, V*, *Eye of the Beholder*, *The Hobbit*, *Shadow of the Beast I & II*, *Zak McKracken*, *Larry 1*, *Time Tunnel*, *Prince of Persia*, *Indy (Last Crusade)*, *Phantasie III*, and some help in *Pools of Darkness*.

David McKinney of 126 Norton Street, Leichhardt, 2040. Help Offered: *Captive* (5 missions), *Buck Rogers: Countdown to Doomsday*, *Ultima V*, *Eye of the Beholder*, *Secret of the Silver Blades*, *Phantasie 3*, *Death Knights of Krynn*, *Chaos Strikes Back*, *Hobbit*, *Dracula*, *Bards Series*, *Pool of Radiance*, *Ultima 3-4*, *Hitchhikers Guide*, *Dungeon Master*, *Champions of Krynn*, *Kings Quest*, *Corporation*, and *Curse of Azure Bonds*.

Nathan Allan of 11 Maple Avenue, Pennant Hills, 2120. Help Offered: *Larry 1 & 2*, *Space Quest 1 & 2*, *Police Quest 1*, *Faery Tale*.

Andrew Bell of 67 Byamee St, Dapto, 2530. Help Offered: *Sierra Games*, *Hillsfar*, *Bards Tale I*, *Millennium 2.2*, *Warhead*, *Battletech*, *Iron Lord*, *Champions of Krynn*, *Codename Iceman*, *Heroes Quest*.

Shayne Cooper of 43 Raye Street, Tollard, Wagga Wagga, 2650. Help Offered: Hints and maps for *Alternate Reality: The Dungeon*.

Gus Wrethman of 31 Anderson Street, Mortdale, NSW 2223. Help Offered: *Bards Tale 1, 2, 3*, *Dungeon Master*, *Chaos Strikes Back*, *Might and Magic I, II*, *Eye of the Beholder*, *Dragon Wars*, *Alternate Reality* (city and dungeon), *Phantasie III*, *Deja Vu*, *Pirates*, *Tass Times*, *Lemmings*, and parts of *Legend of Faerghail*.

Peter Georges of 34 Arundal Park Drive, St Clair, 2759. Help Offered: Has a collection of hints and tips printed in almost every magazine over the last five years (Amiga, C64, ST).

Matthew Sant of 3 Baringa St, Blaxland, 2774. Help Offered: A huge list of adventure, arcade and role playing games.

Suzanne Parkes of 1 Ida Place, Blacktown, 2148. Help Offered: *Asylum*, *Adventureland*, *Find Daryl*, *Giants Gold*, *Hitchhikers Guide*, *Irish Adventure*, *Jinxter*, *King Solomons Mines*, *Lucifers Realm*, *Magicians Ball*, *Pilgrim*, *Perseus and Andromeda*, *Pirate Adventure*, *Subsunk*, *Secret Mission*, *Pawn*, *Boggit*, *Voodoo Castle*, *Lost City*, *Winnie the Pooh*, *Zork 1, 2, 3*.

Andrew Hansen of 4 Stevens Street, Penrith, 2120. Help Offered: *Bards series*, *Ultima I, III, IV*, *Zork 1 & 2*.

Anthony Stubbs of 66 Hoskins Street, Nyngan 2825. Help Offered: *Captive*, *Pools of Radiance*, *Azure Bonds*, *Silver Blades*, *Champions of Krynn*, *Kings Quest*, *Bloodwyche*, *Dracula Pt 3*, *Curse of Sherwood*, *Wolfman Pt 1*, *Labyrinth*, *Bards Tale III*, *Hitchhikers Guide*.

S. Rawlings of 6 Balder Street, Doonside, 2767. Help Offered: *Bastow Manor*, *Drak*, *Curse of the Mad Mummy*.

Dale Priem of PO Box 43, Jannali, 2226. Help Offered: *Space Quest 1, 2, 3*, *Larry 1*, *Zak McKracken*, *Hitchhikers Guide*.

G. Beaven of PO Box 254, Wyong, 2259. Help Offered: C64: *Last Ninja*, *Might and Magic*, *Ultima 5*, *Labyrinth*, *Head Over Heels*. Amiga: *Eye of the Beholder I & II*, *Search for the King*, *Might & Magic III*, and *Black Crypt*. Please enclose \$2 to cover photocopy costs.

Shane Robertson of 14 Sonoma Road, Budgewoi, 2261. Help Offered: *Dodgy Geezers*, *Mask of the Sun*, *Hobbit*, *Dragonworld*, *Fish*, *Pay Off*, *Runaway*, *Wishbringer*, *Zorks*, *Bards Tale I, II, III*, *Bastow Manor*, *Voodoo Castle*, *Zak McKracken*, *ZZZZZZ*, *Castle Master 1 & 2*, *Yukon*, *Winter Wonderland*, *Urban Upstart*, *Unknown*, *Time Machine*, *Stainless Steel Rat Saves the World*, *St Jives*, and *Skull Island*.

Ryan Tan of 21 Albion Street, Concord, 2127. Help Offered: Most games!

Caroline Africh of 26 Cowl Street, Greenacre, 2190. Help Offered: *Maniac Mansion*.

Y. Chan of 4/91 Drumalbyn Road, Bellevue Hill, 2023. Help offered: *Bloodwych*.

David Marjanovic of PO Box 342, Revesby, 2212. Help Offered: *Space Quest I, II*, *Larry I, II*, *Shadowgate*, *Deja Vu*, *Zak*, *Arazok's Tomb*, *Pawn*, *Deja Vu II*, *Guild of Thieves*, *Manhunter New York*, and *Leather Goddesses*.

Aaron Upcroft of 24 Ryan Street, Balgownie, 2519. Help Offered: *Zork III*, *Deadline*, *Tass Times in Tone Town*, *Lurking Horror*, *Fish*, *Maniac Mansion*, *Zak McKracken*, *The Hobbit*, and *Not A Penny More, Not A Penny Less*.

Philip Mayer of 27 Digby Court, Glen Innes, 2370. Help Offered: *Bards Tale 1, 2, 3* and *Zork 1, 2, 3*.

Paul McLachlan of 60 Hertfield Street, Blakehurst, 2221. Help Offered: Hints and maps for all of the older Infocom titles.

Daniel Leggett of 16 Knighton Place, South Penrith, 2750. Help Offered: *Champions of Krynn*, *Death Knights of Krynn*, *Police Quest 1 & 2*, *Kings Quest 1 to 4*, *Space Quest 3*, *Codename Iceman*, *Gold Rush*, *Man Hunter New York*, *Indy*, *Larry 1, 2, 3*, and *It Came from the Desert*. Please enclose a stamped addressed envelope.

Victoria

Peter Nuzum of 50 Smeaton Close, Lara 3212. Help Offered: *Maniac Mansion*, *Zak McKracken*, *Runaway*, *The Last Planet*, *Deja Vu*, *Bastow Manor*, and most of Scott Adams adventures.

Aaron Davis of 1503 Dohertys Road, Werribee, 3030. Help Offered: *Space Quest I, II, III, IV*, *Kings Quest IV, V*, *Maniac Mansion*, *Police Quest II*, and *Black Cauldron*.

Andrew Malden of 29 Alkira Avenue, Geelong 3215. Help Offered: *Monkey Island I & II*, *Maniac Mansion*, *Might and Magic 3*, *Ultima IV*, *Hitchhikers Guide*, *Robin Hood*, *Larry 1*, *Kings Quest V*, *Lemmings*, *Bards Tale*, *Zak McKracken*, *Indy*, *Cruise for a Corpse*. Please send 50c for copying costs.

Mick and Meredith Blackmore of PO Box 1356, Swan Hill, 3585. Help Offered: *Maniac Mansion*, *Castle of Terror*, *Lost City*, *Oasis of Shalimar*.

Ben Moore of 53 Douthie Road, Seville East, 3139. Help Offered: *Eye of the Beholder*, *Heroes Quest*, *Heart of China*, *Monkey Island*,

Gods, MegaLoMania, Kings Quest V, and Last Ninja III.

Steven Fochi of 40 Dover Street, Albanvale 3021. Help Offered: *Moebius* (+ maps), and *Leather Goddesses*.

Dorothy Millard of 12 Venetian Court, Croydon, 3136. Help Offered: Almost every adventure game for the Commodore 64.

Scott Pitcher of 13/176 Rathcoun Road, Reservoir, 3073. Help Offered: All Scott Adams adventure games.

Stefan Lamont of 209 Landsborough St, Ballarat North, 3350. Help Offered: *Kings Quest 1, 2, 3, Leisure Suit Larry 1*.

Michael Jones c/o Vision BBS BBS=(03)569 4442 VOICE=(03)563 5125.

Martin McLaren of 39 Jones Crescent, Rosanna, 3084. Help Offered: *Pool of Radiance, Bards Tale II, III, Police Quest, Monkey Island, and Eye of the Beholder*.

Wade McGregor and Greg Eames of 9 Kentworthy Place, Mount Pleasant, Ballarat 3550 have formed a group known as the AMIGA DUO. Help offered: *Treasure Island Dizzy, Indy, Maniac Mansion, Zak McKracken, Monkey Island, Snoopy and Peanuts, Space Ace, Dragons Lair, Dragons Lair: Time Warp, Lemmings I & II, Targhan, and Three Stooges*.

Stuart George of 66 Sharon Road, Springvale, 3171. Help Offered: A huge range of adventure and roleplaying games for Amiga and PCs.

Michael Walsh of PO Box 136, Horsham, 3400. Help Offered: *Zork 1, 2, 3, Stationfall, Planetfall, Starcross, Lurking Horror, ZZZZZ, Rigels Revenge, Bastow Manor, Adventureland, Pirate Adventure, Secret Mission, Pool of Radiance, Azure Bonds, Silver Blades, Hulk, Spiderman, and Dracula*.

Heath Kirby Miller of RMD 221, Sunraysia Highway, Stuart Hill 3478. Help Offered: A good range of C64 adventure and arcade games. Please enclose 50 cents for solutions and always enclosed a large stamped addressed envelope.

Travis Howell of 1 Aeulinga Avenue, Aspendale, 3195. Help Offered: *Pool of Radiance, Curse of Azure Bonds, Secret of the Silver Blades, Champions of Krynn, Death Knights of Krynn, Buck Rogers: Countdown to Doomsday, Gateway to the Savage Frontier, Kron, Hunchback Adventure, and Liberty*. Also, if you send Travis a C64 diskette and stamped envelope, he'll return it to you packed with a party of characters.

Matthew Armstrong of 11 Harcombe Street, Bell Post Hill, Geelong 3215. Help Offered: A good range of Amiga adventure games. For full solutions send 50c for copies, and a blank disk if you'd like a team for *Bards Tale*.

South Australia

Darren Mummery of 28 Cunningham Court, Golden Grove, 5125. Help Offered: A fully equipped high level group of adventurers for *Pool of Radiance, Curse of Azure Bonds, and Silver Blades* for the Amiga versions. Please send Darren a formatted disk and a stamped addressed envelope. Darren can also offer help in *Labyrinth, Bastow Manor, Dan Dare*, and other older C64 adventure games, as well as *Eye of the Beholder, Champions of Krynn, Monkey Island, Police Quest II, and Pools of Darkness*.

David Lear of 7 Glenalvon Drive, Flagstaff Hill, 5159. Help Offered: *Boggit, Never Ending Story, Dracula, Eureka Prehistoric, Subunk, Mindshadow, Wizard of Oz, and Zork II*.

David Sark of 54 Magdalene Terrace, St Mary's, 5043. Help Offered: *Larry II, III, Operation Stealth, Codename Iceman, Shadow of the Beast II, Loom, Neuromancer, Pool of Radiance, Heroes Quest, Kings Quest IV*.

Paul Andrews of 10 Sovereign Street, Hallett Cove, 5158. Help Offered: *Bastow Manor, Island of Spies, Cavern Adventure, Temple Curse, Murder on the Waterfront, Zork I, and Castle of Mydor*.

David Stacey of 3 Tigree Drive, Hallett Cove, 5158. Help Offered: Maps for *Bards Tale 2, 3, Pool of Radiance*, as well as interesting hints and tips. Hints and tips for *The Story of the United Seas*, and is willing to give copies to those who write to him with a stamped addressed envelope. (+ Heaps of other games, too many to mention).

Queensland

Jim Waller of 35 Kanturk Street, Ferny Grove, QLD 4055. Help Offered: A huge range of games!

Scott Logan of 9 Colington Street, Mansfield, Brisbane 4122. Help Offered: *Pool of Radiance, Zak McKracken, Temple Curse, Last Planet, Island of Spies, Adventureland, Azure Bonds, and Corruption*.

Adam Breen of PO Box 1577, Toowong, Brisbane 4066. Help Offered: *Bards Tale I, II, Ultima 4, Champions of Krynn, Hitchhikers Guide, Larry I, Zork I, II, Millennium, Dungeon Master, and Leather Goddesses*.

Derek R. Monz of 12 Noonan Street, Heatley, 4814. Help Offered: *Larry III, Elite, and Millennium 2.2*.

Brendan Burns of 8 Nelson Street, Ormiston, 4160. Help Offered: *Lord of the Rings, Hobbit, Zork 2, 3, Wishbringer, Kings Quest III, Deja Vu, Dracula, and Hitchhikers Guide*.

Brad Roberts of 43 Olearia St, Everton Park, 4053. Help Offered: *Bards Tale III, Chrono Quest, Hulk, Zorks, Infidel, Deadline, Starcross, Rigels*

Revenge, Asylum, Dallas Quest, Mindshow, and Uninvited.

Rhonda Toms of 18 Alawoona Street, Redbank Plains, 4301. Help Offered: *Astrobus Affair, Seabase Delta, Grand Larceny, and ZZZZ*.

Mark Healy of 78 Ipswich Street, Esk, 4312. Help Offered: A good range of adventure games.

Australian Capital Territory

Chris Collins of 22 Moroney Street, Fraser, 2615. Help Offered: Hints and tips for a huge range of adventure and arcade games.

Alex Stivala of 6 Schey Place, Spence 2615. Help Offered: *Trinity, Hitchhikers Guide, Hobbit, Castle of Terror, Maniac Mansion, Lords of Time, King Solomon's Mines*.

Kathy Kupresak of 44 Noarlunga Crescent, Bonython, 2905. Help Offered: *Ultima III, IV, Bards Tale I, II, Times of Lore, Leisure Suit Larry, Zak McKracken, Leather Goddesses, Wishbringer, Legend of the Sword, Kings Quest I*.

Allan Mills of 36 Pickworth Street, Holt, 2615. Help Offered: *Maniac Mansion, Ultima 1, 2, Neuromancer, Space Quest 1, 3, 4, Leather Goddesses, Larry 3, Pool of Radiance, Azure Bonds, and for starters in Kings Quest IV*.

Ian Myers of 1 Phillipmore Place, Charnwood, 2615. Help Offered: *Legend of the Sword and Deja Vu II*.

Western Australia

Mitchell Rashbrook of 34 Conidae Drive, Heathridge, 6027. Help Offered: Many Amiga and C64 disk adventures.

Felicia Holmes of 70 Sheffield Road, Wattlegrove, WA 6107. Help Offered: *Champions of Krynn, Death Knights of Krynn, Heroes of the Lance, Zak McKracken, Faery Tale, Kings Quest II, III, Police Quest I, II, Space Quest III, Quest for Glory I and II, Willy Beamish, Countdown to Doomsday, Operation Stealth, Monkey Island, and Legend of the Sword 2*.

Jozsef Toth of 11/8 Garnett Place, Balga, 6061. Help Offered: *It Came From The Desert, and Lords of Time*.

Turrican of 20 Braden Way, Marmien, 6020. Help Offered: *Police Quest, Indy, Treasure Island, Dizzy*.

Darren of 20 Crufts Way, Canning Vale, 6155. Help Offered: *Operation Stealth, Pool of Radiance, Champions of Krynn, Dungeon Master, Bloodwych, Bards Tale I, II, Millennium, Phantasia I, III, Faery Tale, Knight Orc, Jinxter, Shadowgate, Kings Quest I, III, Larry I, II*.

The Dungeon by Kamikaze Andy

Heigh-ho, heigh-ho, it's a New Year don't you know ... yep, 1993 is here! New Amiga hardware on the horizon, hopefully to be complemented by lots and lots of new Amiga software.

With the acquisition of famed RPG publishers Origin by Electronic Arts some months back, hopes were raised that EA (strong supporters of the Amiga ever since that first A1000 came out all those years ago) would push for the conversion of some of Origin's better known titles. As yet, there has been no concrete indication to suggest that *Ultima VII: The Black Gate*, *Ultima Underworlds*, or *Ultima VII Part II: The Serpent's Isle* will make it across this year, but keep your fingers crossed!

One RPG title that Electronic Arts are bringing out is called *Space Hulk*. Set in the nether regions of galaxies far, far away, *Space Hulk* places you in the Space Marines From The Blood Angels Chapter Of The Legiones Astartes (whew! Looooooooong name!) in the never ending battle against a nasty alien race known as the Genestealers. The

Space Hulks in question refer to the giant spacecraft commanded by these Genestealers, and it is up to you to repel this nefarious threat to all humankind. Don't worry, as you won't take on the aliens with your bare fists. Get ready to put on some of the best technology available, from protective power armour to the latest in laser cutters.

The graphics look impressive at this stage, alternating between a 2D "map" view and a 3D Dungeon-Master type view. Special graphic windows can be used to provide glimpses of different levels (just like *Captive*). Control is via the use of the mouse and icons (click on a compass direction to move, and click on special icons to examine objects, and so forth).

"The Summoning is upon thee. Dare you take up the challenge?" So begins SSI's latest entry into the role playing market, aptly titled *The Summoning*. In a rare moment of marketing boldness, this single character fantasy RPG is NOT an official AD&D license. Explore over 30 levels of mazes, dungeons, castles, and other creepy locations in a game which utilizes colourful isometric graphics, a comprehensive inventory system, icon interface, and multiple storyline endings. And wait! There's automapping too! Expect to be summoned into combat sometime later this year.

Naturally, I could not let the SSI PR manager escape without squeezing some information on future AD&D releases. *Eye Of The Beholder III* is well on its

road to completion, with the Amiga version hopefully due by the middle of 1993. *DarkSun: Shattered Lands* has been put back for a short while to fine tune the new 16-bit AD&D interface being developed by SSI. It also looks like SSI's "M" (a futuristic RPG) might take a bit longer than expected to appear on software shelves.

One title that should be released in a few weeks is *Spelljammer: Pirates Of Realmspace*. This space based RPG is modelled on the TSR series of games (of the same name) and in it, you pilot a magically controlled ship through the solar system. With special assignments to complete, planets of the Realmspace to explore, and the threat of space combat with other vessels ever present, *Spelljammer: Pirates Of Realmspace* heralds the first of what will probably be another long and successful series of AD&D linked computer RPGs for SSI.

New World Computing's *Clouds Of Xeen* looks set to appear in a month or so, since the interface used in this latest *Might And Magic* scenario is virtually identical to that of *Might And Magic III: Isles Of Terra!* There have been notable improvements, including more animated full screen visuals, more use of digitized speech, and more digitized sound effects.

You can now only have six characters in your adventuring party, and the puzzles in *Clouds Of Xeen* are slightly easier to solve than those amazingly frustrating riddles in *Isles Of Terra*. The immediate sequel to *Clouds Of Xeen* has been titled *Dark Side Of Xeen*, and if you happen to have both games in your hard disk (it has to be a pretty BIG hard disk) it is possible that you can enjoy a spectacular "special ending" if you manage to finish both games!

It's encouraging to note that the genre of Role Playing Games has grown in the software entertainment market to rival that of flight simulations and graphic adventures during 1992. With more and more software publishers releasing RPGs last year, and even more intending to do so this year, fans can really look forward to some late late nights in front of the monitor!

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Zool's no fool! Zool is cool! Join Phil Campbell as he takes the plunge into Lolly land for a quick look at one of the best Amiga action games yet.

Mario is a platform hopping, monster bopping plumber - who would have thought he'd become the most successful computer game character ever? The star of Nintendo's record breaking *Mario Bros* series, Mario has become a household name. But why? Is it just "cute appeal"? Or is there something more?

And what about *Sonic The Hedgehog*? Sonic is a bit of a Johnny-come-lately, but even in the brief time he's been at the forefront of Sega's console marketing thrust, he's been incredibly successful - a megastar. Mario and Sonic both have considerable charisma. But that's not enough. *Mario Bros* and *Sonic the Hedgehog* are both fast, smooth,



and very playable games - moments after you pick up the controller, you're hooked. Often for hours on end.

Well, get ready - 'cause there's a new guy on the block. His name is Zool, and - unlikely as it may sound - he's a "Ninja Imp from the Nth dimension." Zool is cool. He's black, shiny and bulbous, with spindly green arms and legs, huge yellow cat-like eyes, and a prominent pair of Reeboks.

More importantly, he's the star of the first Amiga game to really give Mario and Sonic a run for their money. He's got plenty of charisma - and the gameplay is superb.

So what are we waiting for? Let's play.

As the game begins, you're standing in Sweet World. Look around and you'll soon figure out where they got the name. The ground beneath you is chocolate fudge, and it's liberally laced with Smarties. The pavement, shown in cross section, is made from licorice allsorts. Glistening red and white candy canes stand upright against the rich blue sky, and lollipops dot the landscape like trees. Not just any lollipops, mind you - in a unique sponsorship deal, they're all labelled clearly as "Chupa Chups."

With a quick prod on the joystick, I send my Ninja Imp strolling toward the right. Within moments he's confronted by a trio of green Jelly-mold men. Head-on contact with them can be deadly, but jumping on top of them is quite safe. A quick triple-splat, and we're on our way. The landscape is full of ups and downs, with plenty of fudgy hills and valleys -

FACTBOX

Zool is simply platform hopping, monster bopping mayhem. It's fast, it's smooth, it's incredibly addictive. So it's thumbs up from me - and I wish I had more thumbs!

RATINGS

GRAPHICS: 93%

SOUND: 81%

GAMEPLAY: 96%

OVERALL: 95%

Distributed by Electronic Arts
(075) 911 388. RRP \$69.95. Top value!

brightly coloured platforms too, usually littered with a range of bonus jubes and jellies. Down one hill, up a chocolate cliff, and Zool is attacked by a swarm of killer bees. They're tricky, but some fast work on the fire button leaves them in pieces.

Most of the bad guys leave behind lolly bonuses; sometimes they're worth big points, other times extra energy - and every now and then, you'll find a top notch new weapon.

So far, I've made it right to the end of level one, but I haven't managed to do away with the "end of level beastie." He's called the "hum-bugger", and he's huge. From here, it's on to the Music World, then the Fruit World, the Tool World, the Toy World and the Fairground World. In other words, plenty of scope for a long term challenge.

In the end, it's not so much the theme of a game like *Zool* that's going to make it sell. It's not even the cutesy character. It's the playability - the responsiveness of your character on the screen, the scrolling speed of the screen, the delicate balance between the meanness of the meanies and the skills of the first time player. And at every point, *Zool* is superb.

Vivid graphics, an excellent soundtrack, and above all, beautifully balanced gameplay make it one of the best games to ever appear on my Amiga. □

Hokus and Pokus are in a jam, and it's up to Phil Campbell to get them out in this superb new "save-the-little-guys" game ...

ACAR
STAR

Troddlers

ACAR
STAR

Sometimes it's hard to put down the joystick and start writing. Like now, for example. I'm stuck in Level 13 of *Troddlers*, and try as I might, I can't get through. Which means I have to try again. And again. And again.

With most games, of course, I'd simply spit the dummy, hit the off-switch and give up. But not with *Troddlers*. Because here's a game with that elusive something ... a magnetism that keeps you coming back for more.

You could almost call *Troddlers* a *Lemmings* clone. Almost, but not quite. *Lemmings* featured hordes of cute little creatures wandering around hostile, surrealistic landscapes, and it was your job to bring them safely home. It was appealingly cute, it was appealingly puzzling, and it was one of the most popular games of the decade.

Troddlers, on the other hand, features hordes of - um - cute little creatures wandering around hostile, surrealistic landscapes, and it's your job to ... well, okay, it's DEFINITELY a *Lemmings* clone.

But there are some important differences. The *Troddlers*, for example, are not furry little rodents. They're the mischievous by-product of the pranks of Hokus and Pokus, rascally apprentices of the great sorcerer Divinus. "Warning - Instant Magical Troddlers. Do not mix with water!", read the label on the pack in the sorcerer's store-room. Naturally enough, Hokus and Pokus couldn't resist. They tipped the contents into a bucket of water, and out they came - hundreds of tiny Troddlers.

Divinus was furious. So now it's up to you to help round 'em up and bring 'em in. There are all sorts of hazards to avoid, and the only tools at your disposal are movable blocks - zap once

with your wand to put them down, zap again to pick them up.

The trick is to place the blocks around the maze of platforms and hazards so as to lead the Troddlers safely to the exit. And it's far from easy.

Consider my predicament in Level 13. I'm standing on a three-by-three platform of blocks, somehow suspended in mid-air - the drop to the ground is dangerous for me, and fatal for the swarm of fragile little Troddlers. Hordes of them mill around incessantly, their sticky feet allowing them to walk off the edge of my suspended platform, down the sides, across the bottom and back to the top.

The challenge is to get them safely to the ground by re-arranging the nine blocks that make up my platform. Care is required - if I pick up a block as it's being trod by a Troddler, he'll fall to an icky death. And as you can imagine, if I carelessly drop a block on top of on of

FACTBOX

Troddlers is every bit as good as *Lemmings* - it's cute, it's brain-stretching, and it's lots of fun. Which means *Troddlers* is well worth a look! Don't miss it.

RATINGS

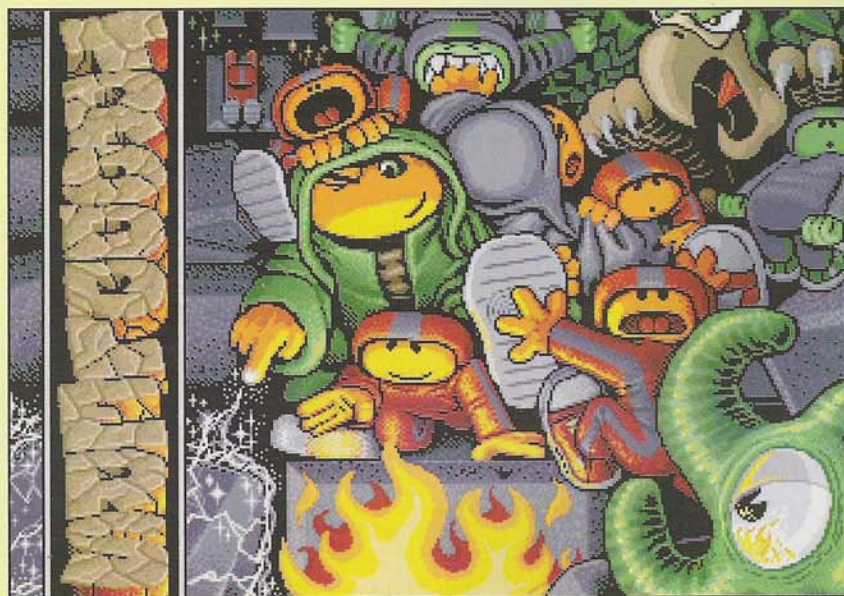
Graphics:	92%
Sound:	89%
Gameplay:	96%
Overall:	94%

Distributed by Mindscape, (02) 899 2277, RRP Amiga \$69.95.

the little guys, the mess is even worse. Lose more than three Troddlers, and it's back the start.

In theory, it's not that hard. But there's a strict time limit. And in higher levels, you'll have to tackle deadly zombies, and cannons, and crushers and grinders - the stuff that Troddler nightmares are made of.

Graphics in the Amiga version are delightful. And so is the sound-track. You'll troddle around a series of lavish and ever-more-complex backdrops to the beat of dozens of catchy little tunes - all perfectly calculated to bring you to the tantalising edge of frustration. □



Yet another racing sim? Indeed it is - so let Andrew Gormley take you for a ride in his brand new ...

Jaguar XJ220

The Jaguar XJ220. Without doubt, one of the sleekest things to ever come out of a British manufacturing plant. From a company that virtually went into receivership just a few years back, it has already been tested at almost 350 kilometres an hour - roughly 20kph faster than the original speed record set for a road car by the Lamborghini Diablo.

One thing can be said about it for certain - it is a mean piece of machinery. However, it's going to take one mean computer game to blast past Grem-lin's Lotus series, which has now become a trilogy. Of course, it would be thoroughly unfair to spend an entire review comparing a game to its competitors, and when looked at on its own, *Jaguar XJ220* is impressive. The intro scene is quite good - parts of it reminiscent of *Test Drive* - and after a while the menu screen pops up. All of the necessary gadgets and icons are there, so you can choose acceleration through the button or joystick, leave the computer to change gears for you, and other various functions.

Looking from the side, the silver-grey XJ220 is a slick car with the air intakes and all, and the rear view is no less impressive. As usual, the handicap of being last on the grid is taken into account, and as soon as a little man with a flag wanders onto the screen and waves it, I'm at it hammer and tongs to claw my way past the other starters.

At the first corner there's no gravity whatsoever, and so the car careens into a tree on the inside of the track as a

result of the oversteer. The second corner, on the other hand, applies Newton's Law with a vengeance and I slide across the path of my opponents before finally straightening out. This tendency to use the "tracksliding trap" on some bends and not others is quite realistic - just ask Ayrton Senna - but is a little annoying at first and put me off a little. However, it soon becomes a regular part of racing and adds a fresh rush of excitement at the start of each curve with its unpredictability.

Graphically, *Jaguar XJ220* can well hold its own with its competitors. I found the striped grass - yes, like you see on the MCG during the cricket season - distracting, but the scenery changes were well done, as are all of the sprites which move with crisp, defined motion. There's no problems with jerky scrolling here; it's as smooth as an Amiga salesman.

As with any racing game, the level of adrenalin is directly proportional to the music played whilst shooting along at over 300 kilometres an hour. The selection of your favourite type of tune is well presented as a CD player, and can be changed before the beginning of each new race. I found "Thrash Pig" to

FACTBOX

Jaguar XJ220 is a well bred racing game, though not quite up to the standard of the Lotus series. Graphics are nice, and have real depth, but the response of the Jag is a little too sluggish. The inclusion of a track construction kit adds value to the game, which is recommended as a good buy.

RATINGS

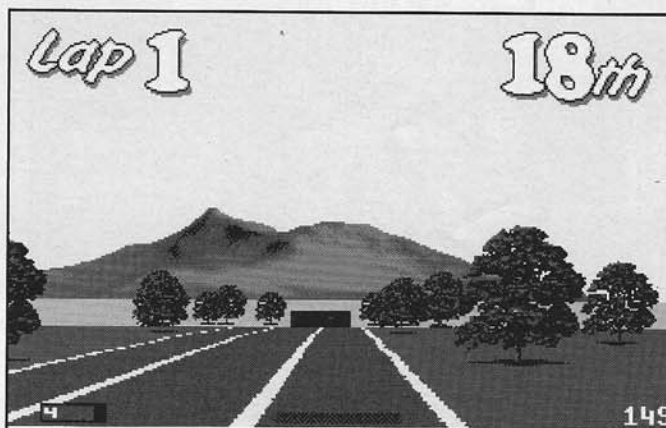
Graphics:	89%
Sound:	91%
Gameplay:	84%
Overall:	87%

Distributed by Sega Ozisoft
(02) 317 0000. RRP Amiga
\$69.95.

be a good racing tune, and the other samples appeared to cater for all walks of life.

It seemed only mild at first, but throughout all of my games of *XJ220* the car was less responsive than I would have liked it to be, and I believe this to be the major stumbling block on the game's way to stardom. I have heard that most cars do tend not to want to change momentum at top speed, but this is a case where realism really has to be sacrificed for gameplay. The ranking method where you are given points on which position you finish the race in (assuming you finish it!) works well for the game, and is a good way of scoring.

Naturally, the inevitable question at the end of the day has to be: is it better than the Lotuses? Sadly, I'd have to say no. *Jaguar XJ220* has potential, but the sluggishness of the car really brings it back to earth. Of course, it is a very good game in its own right, and well worth the money. The track construction set will keep it out of the disk box and in the drive well after your purchase - I do recommend it. □



Aquatic Games

There's something fishy going on, says Dave Sanna, as he slips on his flippers to check out the latest watery wonder.

Perilous missions, wicked villains, and gorgeous mermaids make up the everyday life of an underwater agent. But even a top FISH operative like James Pond needs a break from the undersea grottos of international intrigue. Pond is no wet fish when it comes to his leisure time. He'd rather hook into some furious, fun action than lie in the sun with a lot of beached whales. That's why he and his pals started the Aquatic Games. The Games consist of eight competitive events and two bonus events that really separate the men from the minnows. So start pumping your gills as I take you into the Games of the 1st Aquatiad.

A quick tap on the fire button takes you to the option screen where you can choose to either go into Training, choose from one to four players, or to go straight into the Aquatic Games. There are three training modes. Each is a little harder than the last, so you'll be in optimum condition for the big one. Anyway you want to hear about the real thing so, LET THE GAMES BEGIN!

The first event: The 100m SPLASH, a splashy dash across a 100m wide body of water. On your marks ... set ... GO!! And they're off. Wiggling and wagging as fast as I can, I jump for a toucan and over a pelican - weird but true. Still going strong with my opponent, F. Fortescue Frog, hot on my heels, the pelican I jumped comes to help me. I scream over the finish line in world marintime. (One for the ACAR Hall of Fame?) Catching my breath I grasp my first Goldfish medal.

On to the next event: Kipper Watching. This time as Cecilia Seal I have to protect my sealy buddies from the pesty tourists who are throwing beachballs at them. UP I go to bounce a ball away from my sleeping seal friend ... Four minutes later ... Da da da! Another record score! With another Goldfish medal under my fin, I now have the option to choose a bonus event.

It's the the long jump. Yey, one of my favourites! I take a deep breath and begin to wiggle the stick in rapid actions, at the jump mark I hold down the button and wait to reach the 45 degree mark. It does and I soar into the air. Needing over 300 metres, I await the judges' decision. Yehah! 460 metres appears on the big screen and I take a shield of merit and continue to the last event: Leap Frog.

A final dash for the ultimate prize - to be the winner of the Aquatic games! I take my mark on the last event. The light goes green, and I'm off. Over the first electric eel. No probs. Ahhh! The second one hits me. No time now to

FACTBOX

Aquatic Games is a ten event water sport novelty challenge. It's probably best suited to kids, with bright and breezy graphics and a junior-bop soundtrack. Mid-teen and older players will probably soon tire of the multi-event challenge - otherwise, though, a neat, fun game.

RATINGS

GRAPHICS	71%
PLAYABILITY	74%
SOUND/FX	60%
LASTABILITY	56%
OVERALL:	69%

Distributed by Electronic Arts
(075) 916 068. RRP \$79.95.

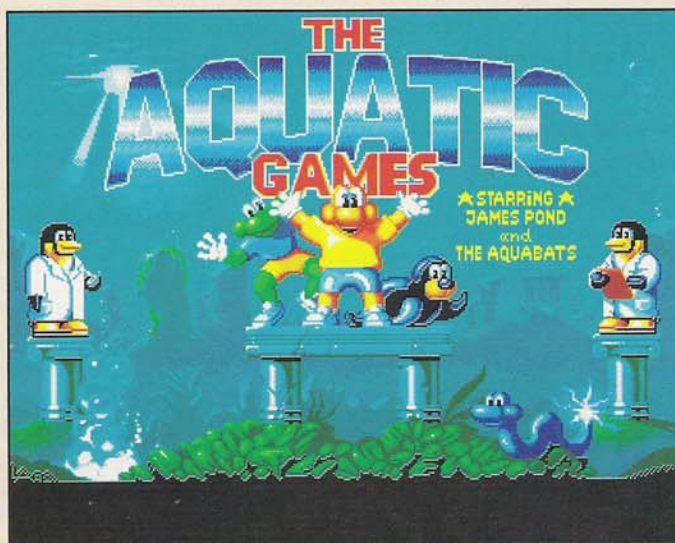
jump for bonuses - I have to reach the finish line in time. Over the last eel, and I race for the finish line ... crossing with .23 of a second remaining! Whew!

There are heaps more events (10 in all), and you'll probably like them. So now for a few thoughts on overall quality.

Graphics are cute, with a "Wonderboy-style" background and figures. They're very shiny, and stand out heaps. They have a very nice "cartoony" type feel as well. Very good Mr Nicholls!

Sound effects are okay for this type of game, though the music is perhaps a little childish - more appropriate for *Play School*.

Overall, the game is very exciting but lacks that intrigue that would keep you coming back time after time. A solid week of play will just about see you through. And there's a strong sense that I have that this game was made for those a little less intellectual than myself. Otherwise if you're just a big kid, go out and buy it anyway! □



They're Fun and They're Free Public Domain Games under the Microscope

Strapped for cash? Recession digging deep? Then here's one way you can keep on truckin' without breaking the bank. Phil Campbell explores the latest offerings in Public Domain Games.

Tim Strachan is one of the genuine good guys of computing. Since the early days of the Amiga, Strachan has produced Megadisc, a complete Amiga magazine-on-a-disk. You can't stick it in the magazine rack behind the toilet door - but otherwise, it's terrific.

More importantly, Strachan has become one of the focal points of the "Amiga community". Got a problem? Ring Tim, and he'll fix it - or point you in the direction of someone who can.

Best of all, Tim has built up a huge collection of public domain software - freely copyable, legally hand-aroundable ... and plenty of games. Trouble is, there's just so much to choose from, which is why Megadisc has just released a new Public Domain Game pack - ten of the best ever PD game disks for just \$30.

Some of the games in the collection are exceptional. Some are just off-beat. If you played the original *Lemmings* - a frustrating game which involved saving the lives of countless suicidal rodents - you'll especially enjoy *Operation Lem-*

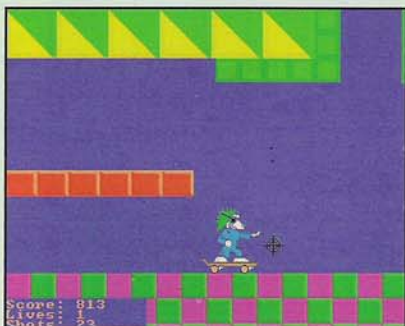
mings on disk GA162. With graphics and sounds grabbed from the original, it's time to get even. Simply line up your gunsights, press your trigger and watch them splatter around the screen. Very gratifying, though perhaps not very eco-conscious.

Lemmingoids follows a similar theme. This time the little green haired rodents are floating through space in a game modelled on the classic *Asteroids* shoot-em-up. Hit them once and they split into smaller Lemmings; hit them again and they split again - it's third time lucky, and your task is to clear the screen before you collide with an errant floater. Again, sound clips like the classic *Lemming* "Oh No" add to the atmosphere of the game. There's even a snatch of the Hallelujah chorus!

Sick of *Lemmings*? Try disk GA164 for a perfect clone of the ancient *Scrambler*, the first ever horizontally scrolling shoot-em-up. It made quite an impression back in the late seventies, and it's still a top class blast. *Centipede*, another arcade classic, has been updated on GA 157.

You'll find new versions of Jeff Minter's *Revenge of the Mutant Camels* and *Megalactic Llamas* on disks GA156 and GA 158. Pilot a flying camel through psychedelic levels full of huge Coke cans, smiling purple houses and acid rain-clouds and you'll realise why people have been asking what Minter grows in his potplants.

For a taste of something completely different, try *Tanx* on disk GA155.



FACTBOX

The Megadisc PD Game Pack offers exceptional value for money. The games are well chosen, and though they're not quite up to commercial quality, most of them are plain good fun.

RATINGS

Overall Fun: 82%

Overall Value: 85%

For more information on the Megadisc Public Domain Game pack, phone Tim Strachan at Megadisc on (02) 9593692.



Again, it's an old idea - two tanks are engaged in a face off in mountainous terrain. Players take turns setting the firing angle and charge power of their tanks as they try to blow one another off the map. Simple ballistics, but in this case it's dressed up like never before. There's a classy opening screen, the tanks and the mountain backgrounds are beautifully drawn, and the sound effects are terrifyingly real. This one's simple, elegant, and dressed to kill.

Some of the games in the collection aren't so inspiring. *Air Ace 2*, for example, puts you in the cockpit of a World War I bi-plane. It's a simple "view from the top" affair, created with the help of an authoring system called the Shoot-Em-Up Construction Kit. It's reflex defying, it looks pretty - only problem is, when you've played one construction kit game, you've played them all.

Even so, the overall standard of games in the new Megadisc Public Domain collection is impressive. If you're looking for some cheap thrills on your Amiga, it's a worthwhile investment. In fact, you'll have hours of fun if you only ever play each game once. □

The thinking man's shoot-em-up? The tactical challenge of chess with the intensity of guerilla warfare? Daniel Rutter gives the big thumbs up to ...

RoboSport

RoboSport marks the start of a new venture for the well known company Maxis (*Sim City*, *Sim Earth*, *Sim Ant*); they're having a go at a war game.

But in typical iconoclastic Maxis fashion, it's different. The storyline is that in this far future world, the human race has finally realised that while shooting at people may be fun, getting shot isn't. To solve this unfortunate conundrum, people are allowed to vent their destructive energies in robotic combat, performed in televised arenas.

Fighting is accomplished by programming all your robots and then telling the droids to go to it. A "movie" is then generated of the turn, which you can view from anywhere on the map with various options. You can view the turn as often as you like, and it's even possible to save whole battles to disk for later playback.

This technique is interesting because the robots have almost no ability to react to their surroundings - if you give them stupid instructions they'll follow them, even if it's blatantly obvious that they're staring at a corner while a droid behind them fills them full of lead.

The only semblance of autonomy the robots can manage is the "scan and fire" mode, where the robot waits for an enemy to wander into its 180 degree field of view (even if it's right at the edge where there's little chance of a hit) and then blazes away. The turn by turn presentation makes this game a lot more abstract than many war games; more like chess than combat.

Mind you, it's well done. The biggest problem with many Maxis games, on the Amiga at least, was that the developers evidently used fast machines and thought everyone else did too. Loads of windows were opened at once, nothing was optimised and the whole thing

was basically like wading through molasses on 68000. *RoboSport*'s better, particularly in the turn editor which moves quite quickly and is very easy to get the hang of. This is partly because the game system is simple, with only a handful of weapons and limited terrain and movement features. This simplicity may disappoint seasoned gamers, but it's terrific for newcomers and lets you have a decent multi-player game with a friend who's never seen *RoboSport* before.

There are still some signs of elitism from the Maxis coders, though. The game will run only in low or high res, not medium. High res shows four times as much - without it you're forever scrolling around - but without a flickerfix machine will also give you a headache. And there's so much processor overhead that sound effects on 68000 are only coincidentally related to the action, with easily four in five never making it to the speakers at all!

The 90 page manual is comprehensive and comprehensible, as usual from Maxis, although all the screen shots are from the black and white Macintosh version - another tradition.

In summary, *RoboSport* is a great

FACTBOX

A typically high quality Maxis offering, though limited if you're playing on a meagre Amiga. Linking with another machine brings out a competitive edge in the game. Sound effects are sparse, but overall, *RoboSport* offers a novel twist on strategy gaming. Recommended.

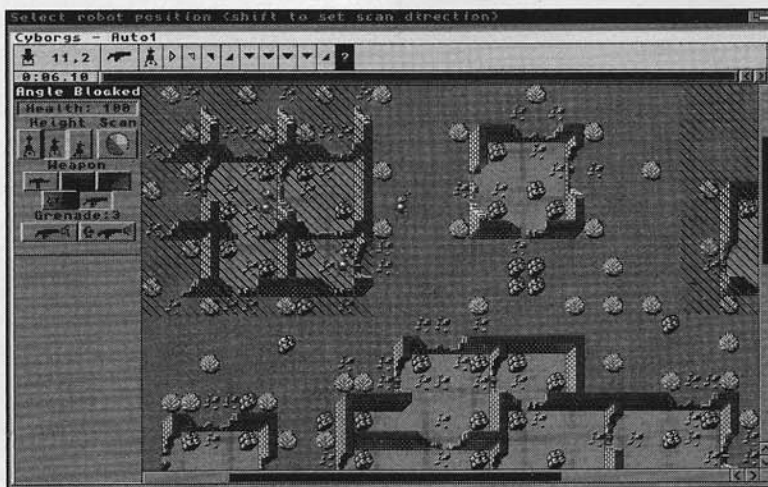
Ratings

Graphics:	80%
(95% on a fast machine)	
Sound:	40%
(80% ditto)	
Gameplay:	85%
Overall:	80%

Distributed by Electronic Arts
(075) 911 388. RRP \$69.95.

introduction to war games for the novice. There are no arcane charts to consult, you needn't slog through a manual the size of the Koran before putting finger to mouse and in datalink mode it's a barrel of laughs. If you're an expert wargamer, *RoboSport* won't stretch you but if you've got a fast machine (hard disk installation is easy) and a few friends it makes for a great afternoon - with two machines hooked up together turn delay is very low and the sparks can really fly!

Maxis need some more practice at this genre of games, but for a first shot *RoboSport*'s pretty deuced good. □





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